Iowa

State Department of Health

1978 PRELIMINARY STATE HEALTH PLAN FOR IOWA

DRAFT

APRIL 19, 1978

Iowa
State Department of Health

LUCAS STATE OFFICE BUILDING
DES MOINES, IOWA 50319

NORMAN L. PAWLEWSKI
COMMISSIONER OF PUBLIC HEALTH

MAY, 1978

TO: CITIZENS OF THE STATE OF IOWA

FROM: COOPER L. PARKER, DIRECTOR
OFFICE FOR HEALTH PLANNING AND DEVELOPMENT

This Preliminary State Health Plan represents a coordination of the health systems plans developed by the three health systems agencies in the state as well as plans and policies developed by other statewide health and health related agencies. This document is admittedly not exhaustive in its consideration of issues affecting the health of the citizens of the state; however, we do hope that it will form the basis for future, more extensive plans. The purpose of the State Health Plan is to develop statewide health policy which will form and reshape the health system throughout the State of Iowa.

Part of the development process for the State Health Plan is that this Preliminary State Health Plan will be distributed throughout the state and that public hearings be held in order to receive comments on the plan from any interested and concerned citizen. The following public hearings have been scheduled:

Tuesday, May 9, 1978
Iowa City Public Library
307 East College
Iowa City, Iowa

Thursday, May 11, 1978
Community Center
530 W. Bluff
Cherokee, Iowa

Monday, May 15, 1978
Iowa Public Service
707 Gilbert Street
Charles City, Iowa

Wednesday, May 17, 1978
St. Anthony's Regional Hospital
South Clark Street
Carroll, Iowa

Thursday, May 18, 1978
Community Hall
205 Main Street
Council Bluffs, Iowa

Wednesday, May 24, 1978
St. Paul's Episcopal Church
815 High
Des Moines, Iowa

Tuesday, May 30, 1978
Davenport Public Library
321 Main Street
Davenport, Iowa

Following the hearings, comments received will be considered and appropriate revisions will be made in the plan. I urge your involvement in the public hearing process. If I or a member of my staff can be of any assistance to you, please contact our office at:

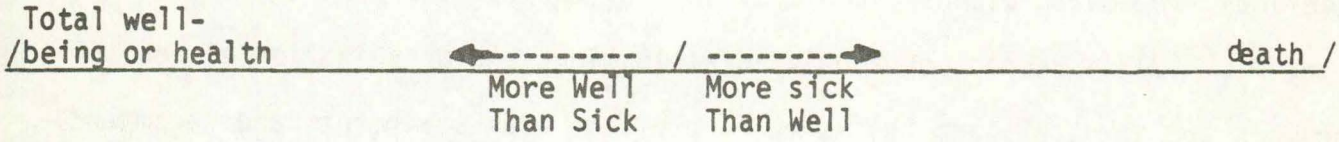
Office for Health Planning and Development
Iowa State Health Department
Lucas State Office Building
Des Moines, Iowa 50319
(515) 281-4340

CLP:CPR:crh

TABLE OF CONTENTS

INTRODUCTION

The World Health Organization of the United Nations defines health as the state of "complete physical, mental and social well-being and not merely the absence of disease or illness." This definition really describes complete health, for health or well-being is a state of which can be more or less present. The complete opposite and absence of health is death. The diagram below illustrates this.



In this plan, primarily the physical and mental aspects of health are analyzed. However, the social aspect of health is inextricably bound to the other two and reference will be made to that aspect throughout the plan.

The Preliminary State Health Plan has been prepared by the Office for Health Planning and Development of the Iowa State Department of Health and is predicated on the assumption that planning is a cooperative process in which the primary responsibility for intelligent decisions rests with local communities including planners, providers and consumers of services. The plan is not intended to preempt the planning decisions of others but to assist communities in those decisions, as well as providing the sort of principles and judgments essential to the performance of the legal obligations of the State government.

The health planning and development process in Iowa is designed as an open and continuous process which encourages both providers and consumers of health services to reach agreement on how to develop an effective comprehensive health system. Public Law 93-641 requires that the plan be reviewed and revised at least annually. Members of the general public are encouraged to express their opinions and view on the content of the plan in order that these might be reflected in future revisions of the plan.

The purpose of the State Health Plan is to present a detailed statement of goals which (a) describes a healthful environment and health systems for the State, which when developed, will assure that quality health services will be availableand accessible in a manner which assures continuity of care at reasonable costs for all residents of the State; (b) is responsive to the unique needs and resources of the State; (c) takes into account and is consistent with the National Guidelines for health planning policy issued by the Secretary under Section 1501 of the P.L. 93-641 respecting supply, distribution, and organization of health resources and services, and (d) is made up of the goal statements and recommendations affecting the State contained in the Health Systems Plans for the affected Health Service Areas.

The State Health Plan is inteded for use by the Statewide Health Coordinating Council to perform the following functions:

a. Review Health System Agency applications for planning and development funding.

b. Review State plans and applications for funds under allotments made to the State under the Public Health Service Act, the Community Mental Health Centers Act or the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970.

c. Review the State Medical Facilities Plan for consistency with the State Health Plan.

d. Coordinate the Health Systems Plan and Annual Implementation Plan of each Health Systems Agency in the State.

The State Health Plan is also intended for use by the State Health Planning and Development Agency to perform the following functions:

a. Conduct the health planning activities of the State and implement those parts of the plan as well as the plans of the Health Systems Agencies which relate to State Government.

b. Serve as the designated planning agency of the State for administering (1) Section 1122 of the Social Security Act, (2) a State Certificate of Need program, and (3) the Health Resource Development Program (Title XVI).

c. Make findings as to the need for new institutional health services as proposed for the State.

d. Review all institutional health services periodically for appropriateness.

The State Health Plan is also intended for use as a guidance document by those entities in both the public and private sector involved in the development of plans and programs for meeting statewide needs.

During the plan development process, the Office for Health Planning and Development considered several plan development methodologies. Because of the limitations both in terms of time and staff it was determined that the Office would necessarily have to rely on the health systems plans developed by the three health systems agencies in the State and on various statewide health related plans which have already been developed. It was also determined, based on the above limitations that the scope of the first Preliminary State Health Plan would need to be limited. Based on these decisions, the health status priorities of the three health systems agencies were analyzed to determine whether or not these could be combined into priorities for use in the State Health Plan. The chart on the following page illustrates how the HSAs' priorities were combined to be included as State Health Priorities.

HEALTH STATUS PRIORITIES	STATE HEALTH STATUS PRIORITIES: Maternal & Child Health	Communicable Disease	Handicapping Conditions	Mental Health/ Substance Abuse	Emergency Services	Health Care Costs	Environmental Quality
Iowa HSA							
1. Perinatal Mortality & Morbidity	X					X	
2. Communicable Disease	X	X				X	
3. Conditions of the Elderly			X			X	
4. Emergency Conditions					X	X	
5. Substance Abuse				X		X	
Illowa HSA							
1. Access to Health System	X	X	X	X	X	X	
2. Mortality			X		X	X	
3. Infant Mortality	X					X	
4. Communicable Disease	X	X				X	X
5. Disablity Due to Chronic Disease			X			X	X
6. Emergency Medical Services					X	X	
7. Mental Health				X		X	X
8. Dental Health	X					X	
9. Substance Abuse				X		X	
Midlands HSA							
1. Diseases of the Heart			X		X	X	
2. Malignant Neoplasms			X			X	
3. Cerebrovascular Disease			X		X	X	
4. Violent Causes of Death					X	X	
5. Pneumonia			X			X	
6. Diabetes			X			X	
7. Cirrhosis of the Liver			X			X	
8. Arteriosclerosis			X			X	
9. Infant Mortality	X					X	
10. Neonatal Death	X					X	
11. Post Neonatal Death	X					X	
12. Respiratory Disease			X			X	
13. Hernia of the Adominal Cavity			X			X	
14. Noise Exposure Reduction						X	X
15. Particulate Air Pollution Reduction						X	X

In some cases, not all priority areas identified in the health systems plans are included in the State Health Plan. Also, in some cases, material not covered in the health systems plans is part of the State Health Plan. Primarily these are areas identified by State governmental or legislative bodies as priority areas.

In the health planning process and in preparation for the development of the State Health Plan, it is necessary to consider certain principles as a basis for the planning process. The principles stated in this section have evolved through a cooperative effort of consumers, providers, planners and government officials. They are a statement of the concepts of planning, comprehensiveness and consumer/provider partnership embodied in the National Health Planning and Resources Development Act of 1974 (PL 93-641). These principles are also proposed as general guides to all persons and organizations responsible for making health decisions in the State. In applying the following principles in the planning of health programs and projects, planners should be mindful of the need to promote adequate and desirable environments for good health practices in the state and the promotion of innovative programs.

Principle 1: Health decisions should be made at the local level.

The Iowa State Health Plan calls for increased local community participation in health decision-making in Iowa. All concerned citizens should be involved in the planning and operation of health programs in their area. People who will be affected by impending health decisions should be given an opportunity to express their views before the decisions are made.

The major thrust of health planning is to develop a process that will create an effective decision-making mechanism at the local level. This mechanism will assure that the growth of the health system will be monitored in a thorough and objective manner.

Principle 2: Consumer as well as provider participation is a primary requirement of all health planning and programming activities.

Consumer involvement in the health field has come about mainly as a reaction to a system that has not been consistently responsive to the health needs of the population. Consumers of health services are now more involved in determining who shall get health services, where they shall come from, how they shall be provided, and who will provide them.

The mandates of various government health programs, including the Health Planning and Resources Development Act of 1974, now call for consumer participation. A Department of Health, Education, and Welfare task force on Medicaid and related programs has reported"...greater consumer involvement in decision-making is required to overcome deficiencies in the health system...and to achieve better management of resources. Without substantial consumer input, health institutions can become excessively self-serving and, in fact, tangential to even fundamental community health problems." Most health professionals now agree that if health programs are to improve, they will need the active participation and cooperation of consumers.

Principle 3: Plans for proposed health programs and projects should be based on identified needs of people.

The Iowa State Health Plan calls for programs and projects to be designed to meet specific needs of the people of Iowa, rather than meeting self-perpetuating needs of health programs. High priority should especially be given to programs that meet citizen's needs for effective preventive care programs. In addition, meeting the special health needs of the poor and near poor is a responsibility that must be shared by all components of the Iowa health system.

In reviewing proposed health projects, the State Health Planning and Development Agency and the health systems agencies will look for a clear delineation of the health needs to be met by the project. The sponsors of a proposal

should identify the target population to be served, should verify and document the health needs of the target population that will be met by the proposed project, and should present economic feasibility information to demonstrate that the project can be fully utilized by the target population. Project sponsors should also establish measurable program delivery and service objectives with explanation of the evaluative procedure and identifying criteria for program and fiscal audit. Evaluation should be designed in terms of whether or not the program is meeting the needs of the target population.

Principle 4: Comprehensive health services should be readily accessible to all citizens of the state.

It is the responsibility of those engaged in health planning in Iowa to influence the development of health care systems in such a way as to make health services readily accessible to all Iowans, regardless of where they live in the state. At the present time, many Iowans who live in rural areas must travel great distances to receive health care services. It is necessary to develop the means to make care more accessible to these citizens.

In developing plans for proposed health facilities, sponsors should plan to make their services optimally accessible to the target population that they serve. (The question of accessibility must be considered in relation to the other principles of this plan.) Sponsors should also work with health systems agencies to identify areas where problems of accessibility exist and to create programs and projects to meet those needs.

Principle 5: All proposed health programs should include mechanisms to assure that services provided to the people of Iowa are of high quality.

The determination of the quality of health care is a complex and difficult matter. There are various mechanisms now being offered as a solution to the problem. Yet, many of these ignore the basic human issues involved. If any attempt is to be successful, it must be remembered that the ultimate social purpose of quality assessment is to assure the public of health care that is

competent, efficient, effective, economically feasible, and humanely administered.

In developing methods of assessing and monitoring quality each agency or organization proposing health care delivery should keep this purpose in mind. If the mechanics of the assessment program become more important than the needs of the people, then the program will most likely fail to adequately fulfill this social purpose.

Principle 6: Proposed health programs and projects should be designed to provide the most benefits at the least possible cost to the patient, and consistent with appropriate quality control. Planners should give consideration to the reasonableness of proposed plans in terms of available resources.

In planning the delivery of health services to the people of Iowa, and after considering the previously stated principles a major concern is that the cost of these services does not place an undue burden on the public, or prohibit the use of the services by any segment of the population.

In reviewing all proposed health projects, the State health planning office and health systems agencies will constantly look for provisions to implement cost containment in all areas. Changes in health facilities should be accomplished without unreasonable increases in cost to the patient, while maintaining a high quality of services.

There should also be a continual attempt to eliminate wasteful overbuilding and duplication of health facilities. Important questions to be asked in all health planning activities will be: Are the proposed services now being adequately and efficiently provided by an existing program or facility? To what extent will the proposed services affect patient costs? Is the project "cost effective?"

Principle 7: Proposed health programs and projects should reflect a concern for the human rights of patients.

Health care should be delivered in a manner that respects the basic human rights of each person. All hospitals, clinics, nursing homes, physicians' and other providers' offices and other health facilities should inform each patient that he or she may:

- Expect to receive current information concerning his or her diagnosis, treatment, and prognosis, in terms the patient can understand and that is in keeping with good care.
- Obtain information necessary to give informed consent prior to the start of any procedure and/or treatment, including the specific procedure, the risks, and probable duration of any ramifications of the procedure.
- Refuse treatment to the extent permitted by law, and to be informed of the medical consequences of his or her action.
- Receive every consideration of privacy concerning his own health care program. Those not directly involved in his care must have the permission of the patient and his or her physician or health practitioner to be present.
- Be certain that all communications and records pertaining to his or her care or treatment will be treated as confidential.
- Be advised if his or her care or treatment will play any part in human experimentation projects or treatment. The patient has the right to refuse to participate in such research projects.
- Examine and receive an explanation of his or her bill, regardless of source of payment.

Principle 8: A more concentrated effort and consequently more health dollars must be spent on disease prevention through Good Environmental Practices, Community Public Health Services and Occupational Standards, and Health Education.

Good health planning must include not only an efficient health care delivery system, but also must give priority to a measure for maintaining good health and the prevention of illness. Except for major research it is generally more practical to promote preventive measures at the local level. Funding for preventive local health service will be a focal point of comprehensive health planning because it is recognized that it is quite often less expensive to prevent illness than to treat it.

Where possible, all health programs and projects will be encouraged to devote a share of their expenditures toward preventive measures. Planning efforts will be made to promote those programs and projects which are innovative in initiating good practices for the total environment (home, work, school, recreation and including personal health practices) which are necessary to maintaining good health and to preventing acute care problems.

MATERNAL AND CHILD HEALTH

I HEALTH STATUS

Live birth rates are lower in Iowa than rates on the national level. The 1975 birth rate was 14.4 per 1000 as compared with 14.8 for the United States in 1975.

Iowa's infant death rate in 1975 of 13.3 compared very favorably with the United States rate of 16.1. Iowa ranked eighth among states with the lowest infant mortality rates in 1975 (Appendix Page 1).

In 1976 of the 718 perinatal deaths, 366 were neonatal death and 352 fetal deaths. The trend graph (A-2) illustrates the decrease in infant, neonatal and fetal death rates 1950-1976.

Common causes of perinatal mortality are:

- o Gestational prematurity
- o Malnutrition (placental nutritional failure)
- o Anoxia
- o Birth injuries
- o Lethal congenital anomalies (birth defects)
- o Infection

These causes can be linked with associated risks during preconception, pregnancy, labor and delivery. The incidence of perinatal mortality and morbidity is closely associated with the proportion of pregnant women who are considered high risk. About 40 percent of all pregnant women in Iowa could be considered high risk on the basis of one or more of the following demographic characteristics: under age 18 or over age 34, out-of-wedlock, total birth order greater than three, previous fetal death, previous child died in infancy, and education less than 12 years. Medically related risk indicators include hypertension, diabetes and eclampsia. These demographic and medical indicators are by no means all inclusive.

Mortality rates for infants born to mothers in the lower socio-economic group (low income and less than 12 years of education) exceed average rates by about 50 percent. White and nonwhite rates are the same when compared by equal socio-economic status.

The decrease in the perinatal death rate cannot be accounted for by the decreased birth rate but by a reduction of high risk births (especially fewer births from women over age 34 and less multiparity (A-3, A-4, A-5), women entering pregnancy in better health; more women beginning care during first trimester (an increase from 77 percent in 1970 to 82 percent in 1975); increased awareness of risk factors by obstetricians and pediatricians and increased referral to appropriate level of care (A-6, A-7). (See A-8 for Infant Death Rates by Subdivision of the First Year of Life.)

Not all high risk women have high risk pregnancies; pregnancies in which there are complications for either the mother or infant. Conversely, women who are not labeled high risk may experience complications. Many of the high risk pregnancies can be identified in the first trimester (first three months) and the remaining are identified later in pregnancy or in early stages of labor. In 1975 in Iowa, complications of pregnancy were recorded for 6% of the births and complications of labor and delivery were reported for 14% of the births.

A high risk factor for perinates is low birth weight. A low weight perinate is defined as one weighing 2500 grams (about 5 lbs., 8 oz.) or less at birth. Recently, perinatologists have been even more concerned about perinates labeled as being very low weight, which is 1500 grams (about 3 lbs., 4 oz.) or less at birth. Low birth weight is associated with higher rates of mortality and morbidity. More than half of the infants that die during the first 28 days of life weigh less than 1500 grams at birth.* Structural birth defects occur in more than 30 percent of the infants weighing less than 2000 grams at birth and 9 percent of the infants weighing between 2000 grams and 2500 grams. Such defects occur in 6 percent of the normal weight babies (over 2500 grams).** Generally low birth weights are associated with highest rates of serious morbid conditions such as (mental retardation) Low birth weight newborns often have problems with breathing, heart action, temperature, and blood sugar. These difficulties can lead to brain damage or death.

* Herman Hein, M.D., Unpublished data.

** The National Foundation/March of Dimes, Facts: 1977, 1976.

In 1975 in Iowa, 2,404 newborns, or 5.7% of the live births, weighed 2500 grams or less; 384 of these newborns weighed 1500 grams or less. Significantly, 22 percent of the live births of Iowa mothers under the age of 20 weighed 2500 grams or less. The low birth weight among infants born to these mothers is four times higher than the low birth weight for all infants. There is a combination of factors which impact on low birth weight -- socio-economic level, age and adequate prenatal care.

Low Live Birth Weights 1970-1975

	1970	1971	1972	1973	1974	1975
Total	48,406	46,224	41,859	39,926	41,113	42,356
Grams:						
1,000 or less	225	199	226	171	214	187
1,001-1,500	254	236	243	218	219	197
1,501-2,000	549	541	435	423	479	465
2,001-2,500	1,886	1,823	1,609	1,536	1,542	1,555
	6%	6%	6%	5.9%	6%	5.7%

SOURCE: Detailed Report of Vital Statistics, Iowa Department of Health

Advances, as a result of Iowa's Perinatal Care Program, are saving increasing numbers of low weight infants. It should be noted that not every infant that lives, as a result of intensive care for high risk newborns, lives without defects. A number of these babies, however, now live normal rather than restricted lives.

Certain pregnancies are associated with a higher risk of birth defects. These include mothers with excessive parity, pregnancies at the extremes of the childbearing ages, poor nutrition, contraction of German measles during pregnancy, and chronic diseases including diabetes, renal disease, hypertension, and heart disease. Complications of labor and delivery, such as fetopelvic disproportion, prolonged labor, breech, and other abnormal presentations are also associated with increased rate of congenital handicaps primarily due to the damage to the infant during labor and delivery.

Birth defects (disorders of body structure, function, or chemistry which are present at birth) disable more children than any other cause except accidents. (A-9) Some 15 million Americans have one or more birth defects which effect their daily lives. At least half of all mental retardation is thought to be caused by defective prenatal development.

It has been estimated that about 60,000 of Iowa's three million inhabitants are afflicted with birth defects and genetic disease. Each year, another 1,600 or more newborns with birth defects (of a total of 40,000 babies born per year in Iowa) are added to this number. The following table lists the estimated frequency per year in Iowa of some common birth defects.

Birth defects due to chromosomal abnormalities - (about 230-250*):

Down syndrome (mongolism)	50
Trisomies 13 & 18	20
Trisomy X	20
Trisomies XXY & XYY	80
Turner syndrome	10
Other chromosomal abnormalities	50-70

Birth defects most often due to multifactorial inheritance:

Cleft lip or cleft lip and palate	60
Cleft palate alone	20
Spina Bifida, meningomyelocele	100
Congenital heart disease	250
Familial mental retardation	600

Birth defects due to single gene (single gene pair) inheritance:

Neurofibromatosis	10
Duchenne muscular dystrophy	7-12**
PKU (Phenylketonuria)	4***
Myotonic dystrophy	10 or more
Cystic fibrosis	20
Sickle cell anemia	3

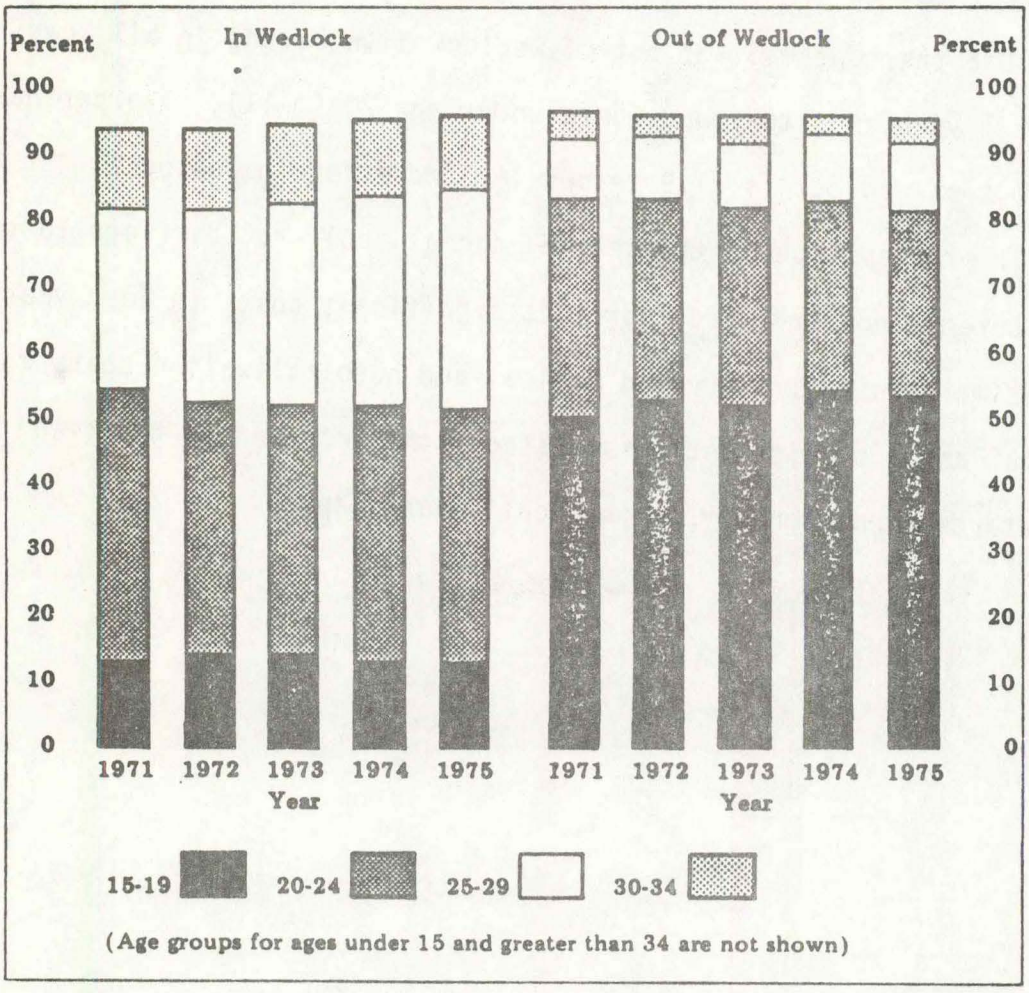
*about 1/3 are preventable
**about 1/6 are preventable if newborn screening become available
***can be treated effectively if detected at birth

In addition to the high risk factors previously identified, unwanted children face additional risk from emotional and physical neglect and abuse. The United States is exceeded by only four other industrialized countries in the world in childbearing rates for ages 15-19 (A-10). Twenty percent of all births in the United States are to young women 19 and under. Nine out of ten teenage mothers elect to keep their babies even though two-thirds of these babies were unplanned. In Iowa during 1976 there were 3,437 out-of-wedlock live births in all ages, and 4,313 in wedlock live births to young women under age 20 (A-11). The perinatal death rate for out-of-wedlock is 27.9 versus 16.2 rate for in wedlock.

The multiple problems due to the health, social, cultural barriers to the single teenage parent and her child represent significant costs in lost years of education, lifetime earnings, increased medical and hospitalization costs and emotional, social and economic costs associated with the care and treatment of the mentally retarded, emotionally or physically handicapped.

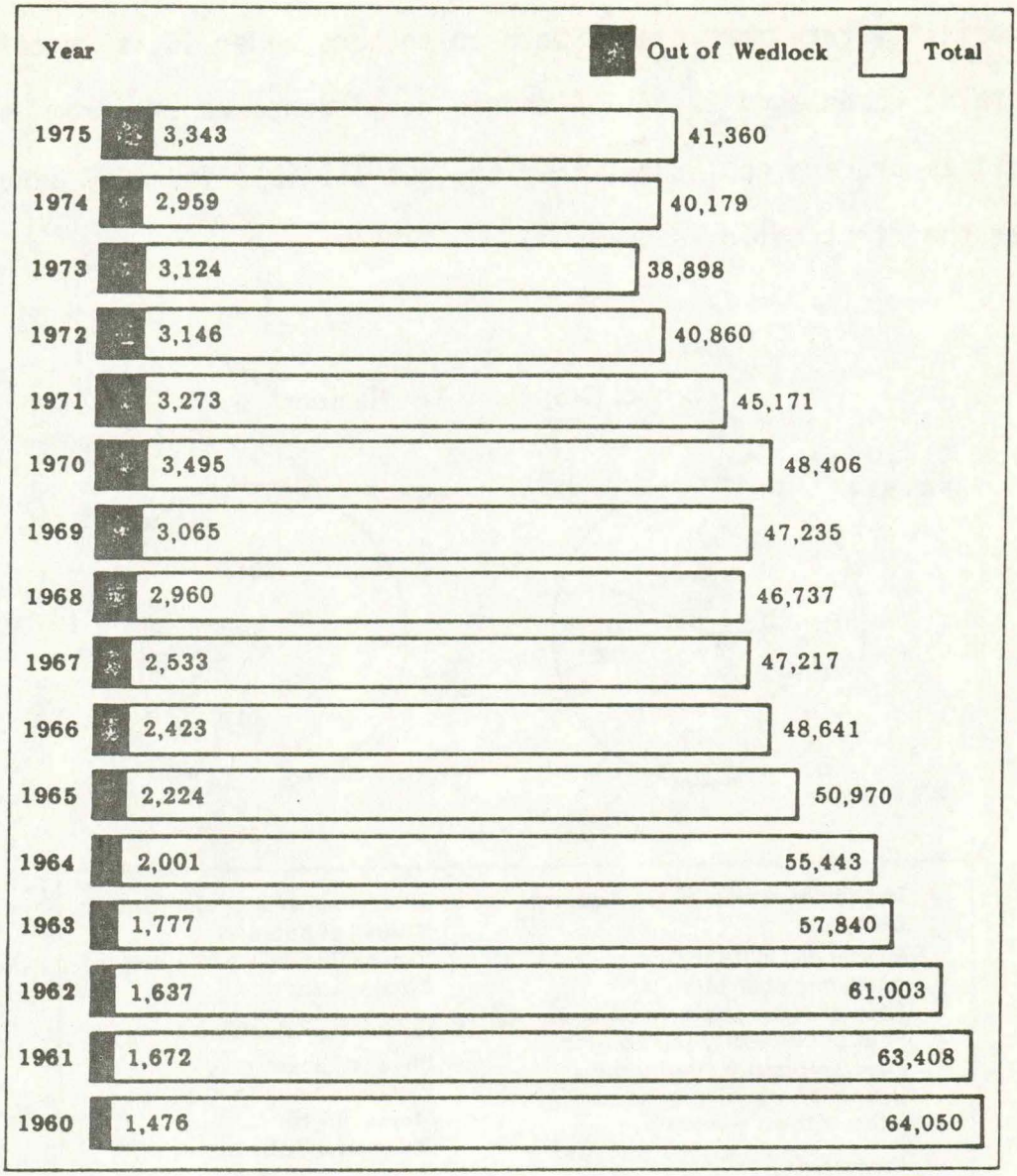
As the number of live births decreased by about one-third between 1960 and 1975, the number of out-of-wedlock births increased two and one-quarter times. More than half of the out-of-wedlock mothers are teenagers.

Percent Distribution of In Wedlock Live Births
by Age of Mother
(1971-1975 Resident Data)



SOURCE: Vital Statistics of Iowa 1975 (Iowa State Department of Health, Division of Records and Statistics: Des Moines, 1976), p. 20.

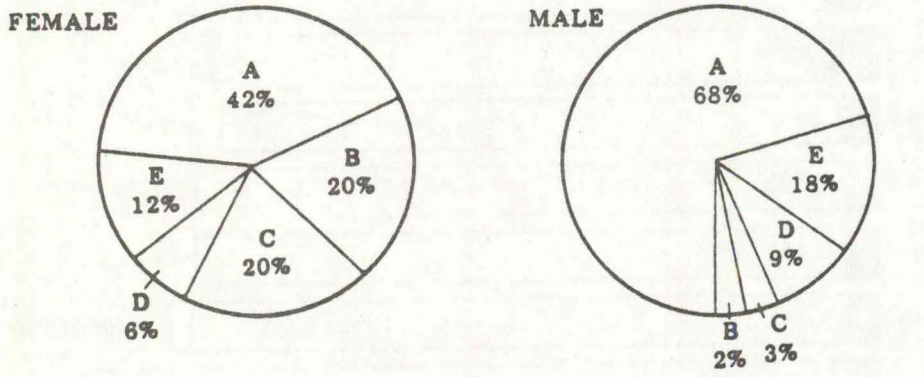
Live Births (Total and Out of Wedlock) 1960-1975



SOURCE: Vital Statistics of Iowa 1975 (Iowa State Department of Health, Division of Records and Statistics: Des Moines, 1976), p. 20.

The increase in teenage pregnancies has become a topic of great concern. Today one girl in twenty is a mother before her 18th birthday. It is known that the mortality rate for infants born to mothers under 15 is twice that of infants born to women aged 20-34. Although many teenagers are from low-income families or have no income, they are not eligible for AFDC benefits until after the first child is born.

School Dropouts: The Reasons*



A. Individual needs of student not being met:
- Mental disability
- Academic difficulty
- Lack of appropriate curriculum
- Poor pupil-faculty relationships
- Poor peer group relationships
- Dislike of school experience
- Other known reasons

B. Pregnancy

C. Marriage

D. Economic needs of the family:
- Needed at home
- Family financial difficulties
- Employment

E. Involuntary absences:
- Physical illness
- Physical disability
- Mental illness
- Behavioral difficulty
- Parental influence

* These percentages are based on statistics for the school year 1968-69. This is the last year such information is available. We assume they would be approximations of the breakdown of reasons for dropouts today.

SOURCE: Joseph G. Lucido, Annual Report Migrant Action Program, Inc. 1975 (Des Moines, 1976).

[11] The Quality of Life in Iowa: An Economic and Social Report to the Governor for 1976 (Office for Planning and Programming: Des Moines, 1977), p. 13-1.

Low income is recognized as an important factor affecting health status. According to 1970 census data for the State of Iowa, there were 1,125,425 children under the age of 21 and 394,524 women between the ages of 21 and 44. Of the 748,504 children under 14 years of age, approximately 94,737 are from medically indigent families.

Of the total number of women of childbearing age, 108,131 were considered as medically indigent; approximately 16,000 or 15% of these were Medicaid eligible.

About 53,000 Iowa families are headed by women. These families have an average income of $6,090. Slightly over half of these heads of household* are employed outside the home.

Almost 64,000 families -- or one of every twelve -- have incomes below the state defined poverty level; their average income is $1,865. These families who are poor are about the same size as the average Iowa family, but one-fifth of them are single parent families headed by women. Fewer than one out of seven of the families who are poor receive any public assistance income.*

> "The average income for a family from public assistance or welfare is $1,385 a year. The average wage or salary income for a family in Iowa is $8,931.*

Over 60,000 children receive support from the State of Iowa through the Aid for Dependent Children (AFDC) program. Four out of five of these children are under 14; one-third of them under six. Generally there has been an overall downward trend in the size of families; this is true of the AFDC family as well. The AFDC family, like many other Iowa families, has tended to move to the more populated areas of the state. While the head of the AFDC household is the mother in three-quarters of the case, one out of five is headed by a male.

*Iowa Council for Children Governor's Report.

Children in the Population

	U.S.	Iowa
Total Population	213 million	2.87 million (1.3%)
Population under 18	66 million	.893 million
Population under 6	20 million	. 216 million

Approximate distribution of medically indigent children 0-5 years in Iowa's HSAs, under 125% of poverty in Iowa served by the HSAs.

IHSA			
Subarea 1	9,320	Illowa	2,899
Subarea 2	5,922	Midlands	3,745
Subarea 3	4,171	Iowa total	48,989
Subarea 4	10,373		
Subarea 5	12,559		

Potential number of pregnancies among medically indigent women ages 15-44.*

IOWA HSA	5,642		
Subarea 1	1,240	Illowa	403
Subarea 2	904	Midlands	510
Subarea 3	563	Iowa total	6,555
Subarea 4	1,387		
Subarea 5	1,548		

Another group of Iowa families are the migrant and seasonal farmworkers. For over fifty years they have come to Iowa to harvest tomatoes, onions, asparagus and nursery crops. Most of them are Mexican-American and Spanish-speaking. One thing they have in common with some other Iowa families is that they are poor. The state since 1963 has operated a number of programs to aid migrants; in 1975, assistance was provided to more than half of the total 3,500 migrants in the state.**

Parents traditionally have high expectations for their children, particularly their firstborn. While in many cases these expectations, although high, are not wholly unrealistic or unattainable, in some instances children are punished for their failure to meet their parents' expectations. A 1973 study of teenage rural parents reported that parents expected their children to be able to do things far beyond the child's capability."**

*Iowa State Department of Health
Personal & Family Health Division (based on 1970 census)
**Iowa Council for Children Report

Expectations such as these frequently lead to harsh punishment or abusive treatment. The study concluded that "the children of many adolescent marriages have a high risk of joining the number of battered and abused babies; any measures to help prevent this deserve serious consideration."

Ages at Which Parents Expected Babies
to Achieve Selected Patterns of Behavior

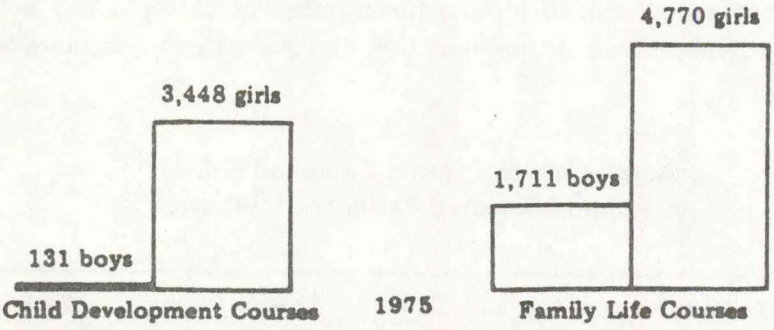
Area of development and approximate norm in weeks		Parents' Estimates in Weeks Mothers	Fathers
Social Smile	(6)	3	3
Sit alone	(28)	12	6
Pull up to standing	(44)	24	20
First step alone	(60)	40	40
First word	(52)	32	24

SOURCE: Vladimir Delissovoy, "Child Care by Adolescent Parents," Children Today, July-August 1973.

The need for parent education is great: it was cited in the 1974 Iowa Governor's Task Force survey by both parents and child advocates as second only to "child care while parents work" in a list of services needed, was ranked 6th out of 17 items listed in the 1975 State Child Care Survey conducted by the Task Force, and was seen as the greatest need by participants in the April 30, 1977 Governor's Conference on Children. There are various ways in which this need can be met: in workshops and parent education courses such as Parent Effectiveness Training offered by community groups, nursery schools and day care centers; through television programs; and by the public schools. *

* Iowa Council for Children Report

In 1975 only three percent or 10,060 of the 325,471* students - grades 7-12 - enrolled in public and private schools in Iowa participated in child development or family life courses. Only 18 percent of the students participating in these courses were boys.



* SOURCE: Report of Department of Public Instruction

Education about child development and family relationships helps adolescents develop realistic expectations for themselves and their marriage as well as for their children. Learning how to cope with the stresses of family life is a valuable part of an education intended to prepare children for life. Furthermore, such an education benefits not only the students taking such courses but the next generation as well. "The scars of a poor childhood go down for two or three generations because the child who has not experienced good mothering or fathering will have a very difficult time as an adult being a good father or mother."*

Currently the only social studies courses required by the legislature are a full year of American History and one half year of American Government. There are no courses required to assist young people in learning to develop realistic expectations for themselves, their marriages or their children.

In 1976, there were 1,926 reported cases of child abuse. In 595 instances (31%), investigation determined that there had been no abuse. In 844 (44%) cases, the child and family received intensive treatment in their home. In 228 cases (12%) the child was removed temporarily, and in 43 cases (2%) the child was removed permanently from the home.

*Iowa Council for Children Report

Almost half of the initial reports of child abuse were received either from a relative or a concerned citizen or from the school.

Source of Initial Reports of Child Abuse

School	18.0%	348
Law Enforcement (Juvenile and Police Probation)	6.4%	123
Hospital/Health Center	12.4%	239
Physicians	3.2%	61
Parent(s)	11.2%	216
Public and Private Agency	9.0%	174
County Health Nurse or Visiting Nurse Association	.7%	13
Babysitter/Day Care	2.2%	42
Relative/Concerned Citizen	28.6%	550
Self Referral	3.5%	68
Central Registry	1.2%	23
Attorney	.9%	17
Not Reported	2.7%	52
Total		1926

SOURCE: Report from the Iowa Department of Social Services, April 22, 1977.

Hospitals or health centers accounted for 12 percent of the reports and parents reported 11 percent of the cases. No prior incident of abuse had been reported for 1342 (70%) of the cases; but for 479 cases (24%) there had been earlier incidents reported.

The majority (54%) of the reported cases of child abuse involved children under the age of 7.

In 1976, sixteen children died as a result of injuries received from child abuse. There were no apparent injuries sustained in 20 percent (443) of the reported cases. Where injuries were sustained, the classification Bruises/Welts accounted for 47 percent (1022 out of 2177 injuries) of the injuries sustained.

Parents were responsible for 65 percent of the reported cases of child abuse.

Ages of Child Abuse Victims

Under 6 months	61
6 months to 1 year	82
1 year	169
2 years	146
3 years	142
4 years	119
5 years	118
6-7 years	204
8-9 years	160
10-11 years	126
12-13 years	187
14-15 years	226
16-17 years	156
18 years and older	—
Age not reported	30
Total	1926

Relationship of Perpetrators to Child

One parent	960 cases (50%)
Both Parents	119 cases (6%)
Step-parent	177 cases (9%)
Non-Related Individuals	414 cases (21%)
Animal — Pet	3 cases (.1%)
Not Reported	253 cases (13%)

SOURCE: Report from the Iowa Department of Social Services, April 2, 1977.

Of the 28 categories listed as reasons most frequently contributing to the abuse of a child, the reasons ranked 1 through 6 were

- Poor Child Rearing Patterns
- Lack of Proper Discipline
- Lack of Nurturing Parental Role
- Emotional Immaturity of Parents
- Marital Conflict
- Parent Adolescent Conflict

*Iowa Council for Children Report

Nutrition is a major component of preventive health and is especially important for children and for women during the childbearing years. Adequate nutritional status of women and children is a factor in reducing the following health problems: low birth weight, growth retardation, obesity, iron deficiency, and dental caries.

National surveys have indicated that these problems are more prevalent among the low income population. The research studies of Special Supplemental Food Program for Women, Infants and Children (WIC) have shown that with the intervention of nutritious foods along with nutrition education the above health problems can be reduced.

The Personal and Family Health Division of the Iowa State Department of Health administers the United States Department of Agriculture Supplemental Food Program for Women, Infants and Children (WIC). Participants eligible for the program must be "at nutritional risk and medically indigent". Medically indigent is defined by the Personal and Family Health Division as 150 percent of the Community Services Agency poverty guidelines.

Nutritional risk is any of the following: deviation from normal growth patterns, low hemoglobin or hematocrit, high risk pregnancy, chronic health problems or inadequate dietary patterns.

In December of 1977, 2,044 pregnant and postpartum women, 2,536 infants and 6,866 children from 1-5 were participating in the WIC Program in Iowa.

Immunization levels are health status indicators for children; however, current data on children less than three years of age is incomplete. Because of the recent legislation, school age children should be 100 percent except those who for religious convictions or medical reasons are exempted.

Data regarding the extent of malocclusion or decayed, missing or filled teeth by age, income or prevalence for Iowa is unavailable; however, U.S. DMF rates are as follows:

D.M.F. Rates for Children, Age 6-11, 1960 - 1962, U.S.

By Race

	Decayed	Missing	Filled	Total
White	0.4	0.1	0.9	
Black	0.7	0.1	0.2	
All	0.5	0.1	0.8	1.4

By Income, By Sex

	Boys	Girls
Less than $3,000	1.2	1.5
3,000 to 4,999	1.2	1.3
5,000 to 6,999	1.2	1.5
7,000 to 9,999	1.3	1.6
10,000 to 14,999	1.4	1.8
15,000 and over	1.4	1.8

By Age and Sex

	Men	Women	
18-24	13.6	14.4	
25-34	16.2	18.4	
35-44	18.1	20.1	
45-54	20.8	22.1	
55-64	24.5	25.7	
65-74	26.7	27.7	
75-79	28.6	29.6	
18-79	19.6	21.1	Both Sexes - 20.4

Periodontal Disease in Adults

Prevalence by Race, 1960 - 1962

	Periodontal Disease w/o Pockets	Periodontal Disease w/ Pockets
White	48.3%	23.9%
Black	48.2%	36.0%

There are no recent surveys to determine the dental health status of the citizens of Iowa, it probably compares closely with statistics obtained from national health surveys. These surveys indicate that the most common childhood disease, dental decay, affects children early in life. Some children will experience tooth decay as early as two or three. On entry to school at five years of age the average child has three decayed teeth. The incidence of new cavities in children 6 to 11 years of age is one per year, and one and half per year in children age 12 to 15. Gingivitis, the earliest stage of periodontal disease, occurs in a major portion of the children by age 13.

The utilization of dental services is directly related to family income, although other factors such as education levels of families are also related. Sixty-six percent of the children in families with yearly incomes under $4,000 have never been to a dentist, compared to 40 percent in families with incomes of $4,000 or more.

Factors contributing to the status of dental health in a population are numerous, however, due to the universality and cumulative nature of dental disease several factors seem to be of most importance in determining this status. These are level of community water fluoridation, per capita incomes, educational levels, age, and dental manpower availability. Higher levels of all these factors are positively correlated with higher dental health status except for age. With increasing age, the prevalence of periodontal disease, missing teeth, and total decayed, missing, and filled rates increase.

Environmental control and immunization have been successful in the prevention of a majority of infectious diseases which require no intervention by the physician or involve a very limited amount of professional time. These methods are not available for the prevention of dental disease, except for water fluoridation. Fluoridation is without doubt the most effective, efficient, and safe means for the prevention of dental decay.

Family income is a major determinant for the receipt of dental care by children, Medicaid eligible children can receive dental care in private offices through the State of Iowa's Medical Assistance Program. However, there remains a large segment of the population of children from pre-school to age 18 that are from low-income families that are unable to afford adequate dental care and not covered under the Medical Assistance Program.

The health status of Iowa's women and children has improved dramatically during the last 50-20-10 or 5 years, yet we still had included in (1975) 41,360 births: 2,387 to women under 18, 7,202 to women with less than high school education, 3,343 out-of-wedlock, 7,232 entered care during their second trimester or later and overall 16,978 women had one or more high risk characteristic.

HEALTH STATUS GOALS

GOAL 1: A PERINATAL DEATH RATE OF NO MORE THAN 13 DEATHS PER 1,000 BIRTHS. (IN 1975 THE PERINATAL DEATH RATE WAS 18.9 (681 INFANTS).)

The perinatal period is from 20 weeks gestation until 28 days after live birth. Perinatal mortality and morbidity rates have been reduced dramatically in the last few years. Further reduction, however, can still occur. To achieve this goal, greater attention must be placed upon more infants surviving a quality birth process, more infants achieving a birth weight of more than 2500 grams, and fewer infants being handicapped from birth defects.

Objective A: By 1982, no more than 5 percent of the live births weighing less than 2,500 grams. (In 1975, 5.6 percent of the live births (2,292) weighed less than 2,500 grams.)

Reducing the number of infants born with a low birth weight will help lower both the perinatal mortality and morbidity rates. Low birth weight newborns often have problems with breathing, heart action, temperature, and blood sugar; these difficulties can lead to brain damage or death. This problem is a most difficult one on which to impact because it is affected by the mother's socio-economic status, life-style habits (such as smoking,

drinking and nutrition), and prenatal care. Since teenagers are four times more likely to deliver a low birth weight baby, attention must be given to reducing the number of unwanted pregnancies.

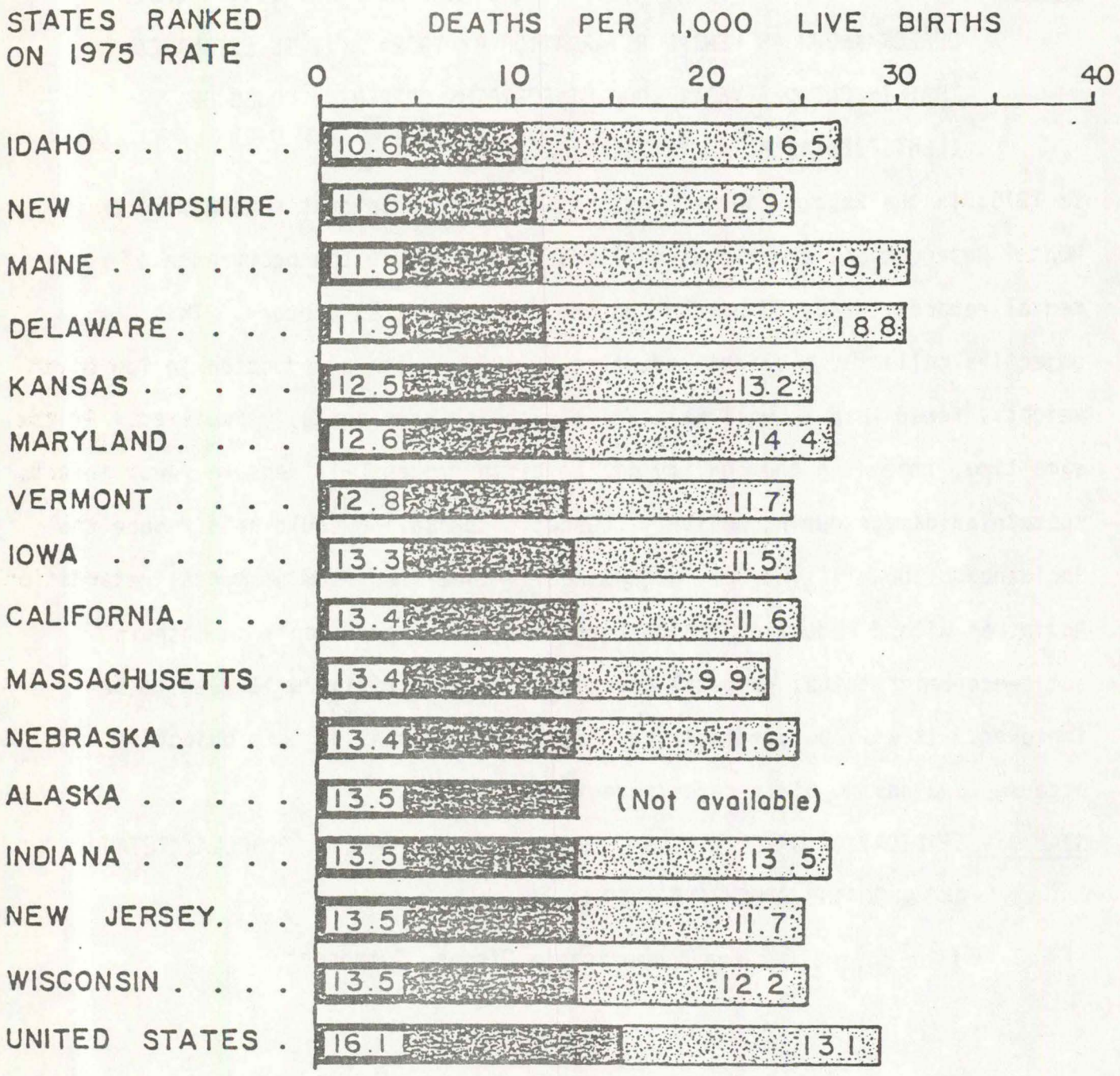
GOAL 2: NO MORE THAN 14 OUT OF 1,000 LIVE BIRTHS WITH THE IDENTIFIABLE DEFECT KNOWN AS MENTAL RETARDATION BY 1982. (IT IS ESTIMATED THAT 15 OUT OF EVERY 1,000 LIVE BIRTHS CURRENTLY COULD BE IDENTIFIED AS BEING MENTALLY RETARDED.)

In 1975, in the Report to the President from the President's Committee on Mental Retardation, a national goal was set to reduce the occurrence of mental retardation by 50 percent before the end of the century. This objective calls for a slight reduction by 1982. With a reduction in low birth weights, fewer infants will be at risk of being born mentally impaired. At the same time, improving the quality of the birth process will ensure fewer infants sustaining damage during delivery. Genetic counseling could help reduce the incidence of Down's syndrome, a genetically inherited form of mental retardation. Again, as with a reduction in low birth weights, improvements in mothers' socio-economic status, prenatal care, and basic nutrition will need to be improved. It will be difficult to measure achievement of this objective because Iowa has no birth defects registry.

GOAL 3: ERADICATION OF DIPHTHERIA, MEASLES, MUMPS, POLIO, RUBELLA, TETANUS AND WHOOPING COUGH (PERTUSSIS).

(For objectives see Communicable Disease Component)

INFANT DEATH RATES FOR SELECTED STATES* 1950 AND 1975**



*States with the lowest infant mortality rates in 1975.
**Provisional statistics.

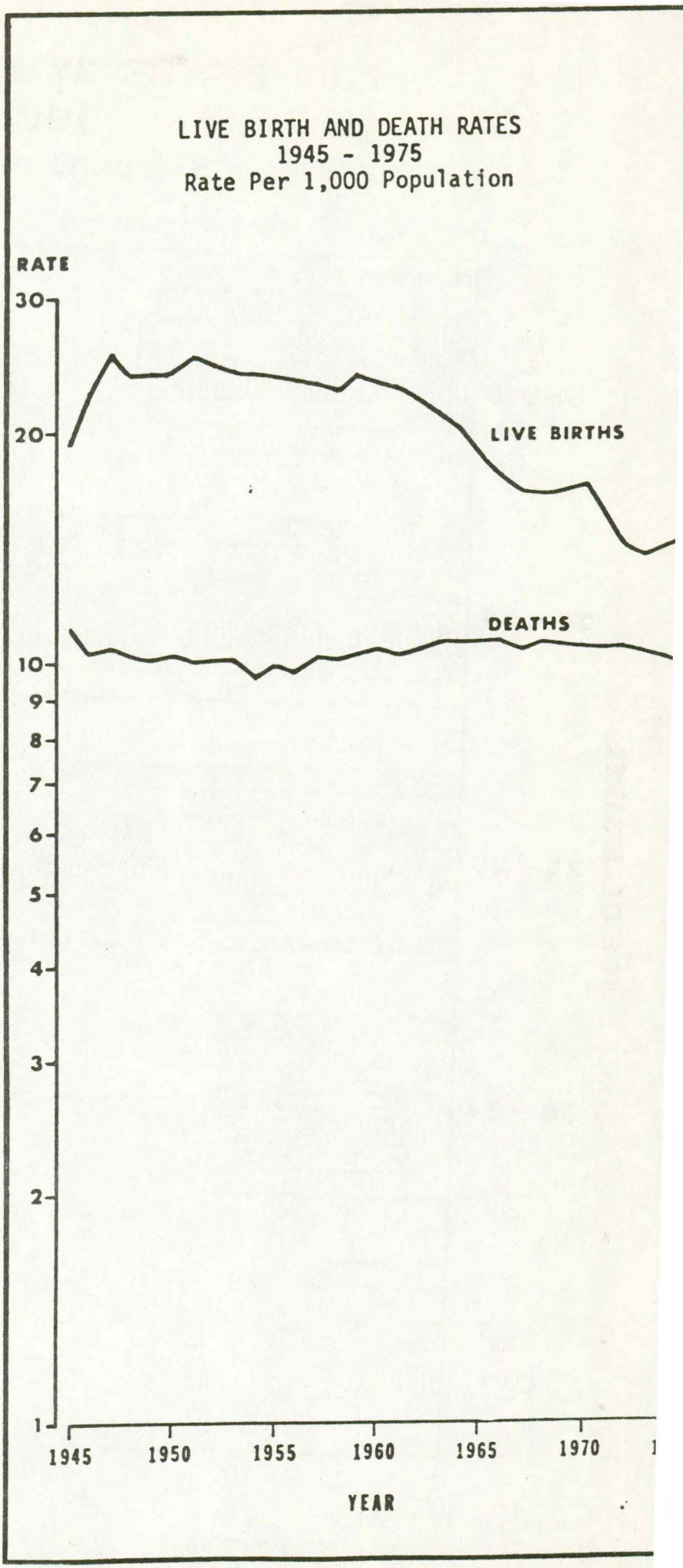
Source: National Center for Health Statistics

Live birth rates are lower in Iowa than rates on the national level. The current Iowa live birth rate is 14.4 per 1,000 population as compared with 14.8 for the United States in 1975. (See Appendix Table 1.)

Since 1973 the Iowa birth rate has gradually increased by 5.9 percent. However, the U.S. rate has remained fairly stable. The lowest birth rate in Iowa for the period beginning in 1945 was 13.6 in 1973. In contrast, the lowest rate for the U.S. is the current 14.8 rate. The highest rate in Iowa was 25.3 in 1947 while the highest U.S. rate was also in 1947, at 26.6.

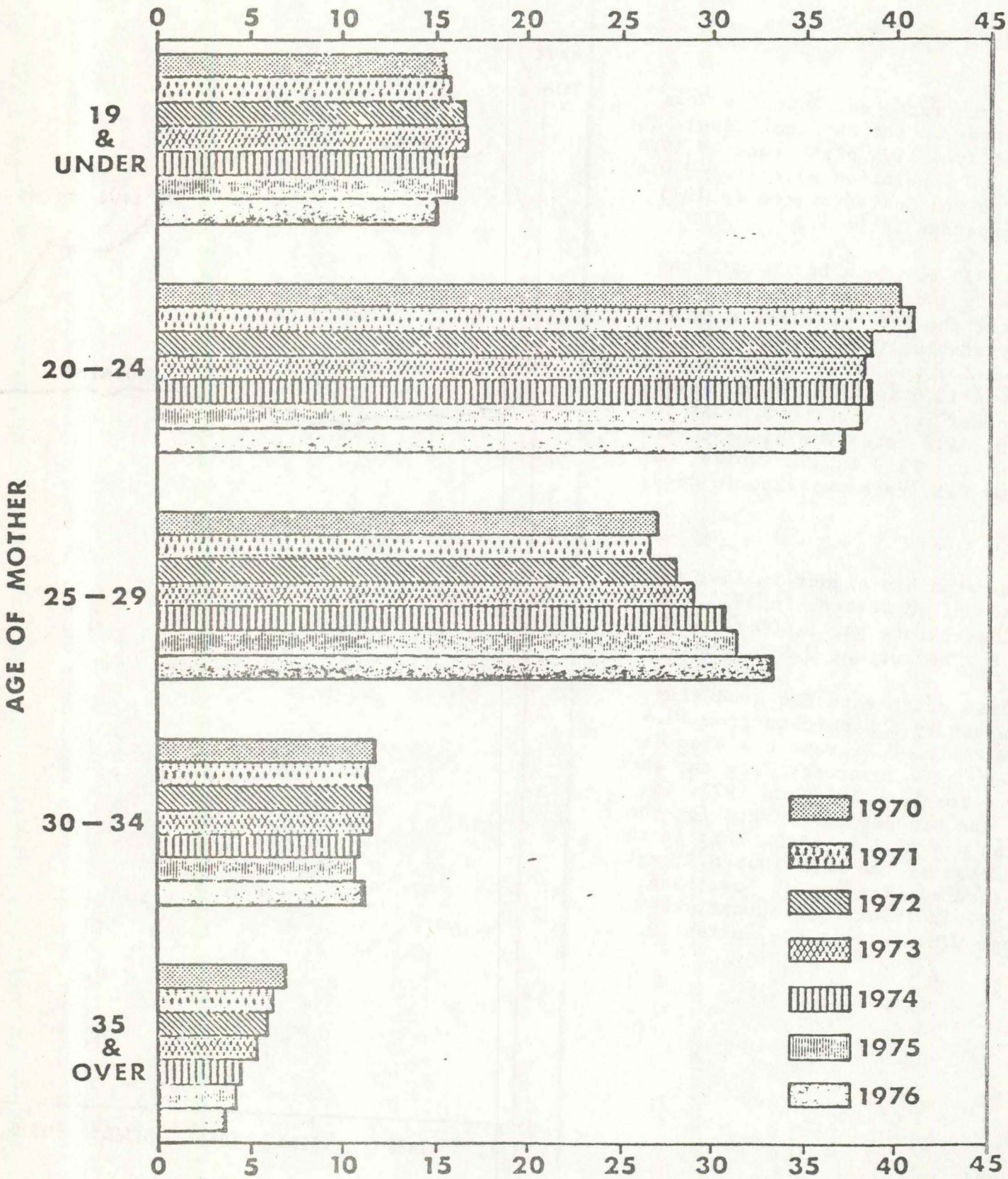
Death rates are higher in Iowa than in the United States. In 1975, the Iowa death rate per 1,000 population is 9.8. The current U.S. rate is 9.0.

The Iowa death rate has gradually decreased by 5.8 percent from 10.4 in 1972. The U.S. rate has also declined - by 4.3 percent from the rate of 9.4 for both 1972 and 1973. In Iowa the highest death rate for the period was 11.1 in 1945. This is the same year as the high 10.6 U.S. rate was reached. The lowest Iowa rate was 9.7 in 1954. In contrast, the lowest U.S. rate is the current 9.0.



Records and Statistics
Iowa State Department of Health

LIVE BIRTHS BY AGE OF MOTHER
IOWA
Percent of Total



Records & Statistics
Iowa State Department of Health

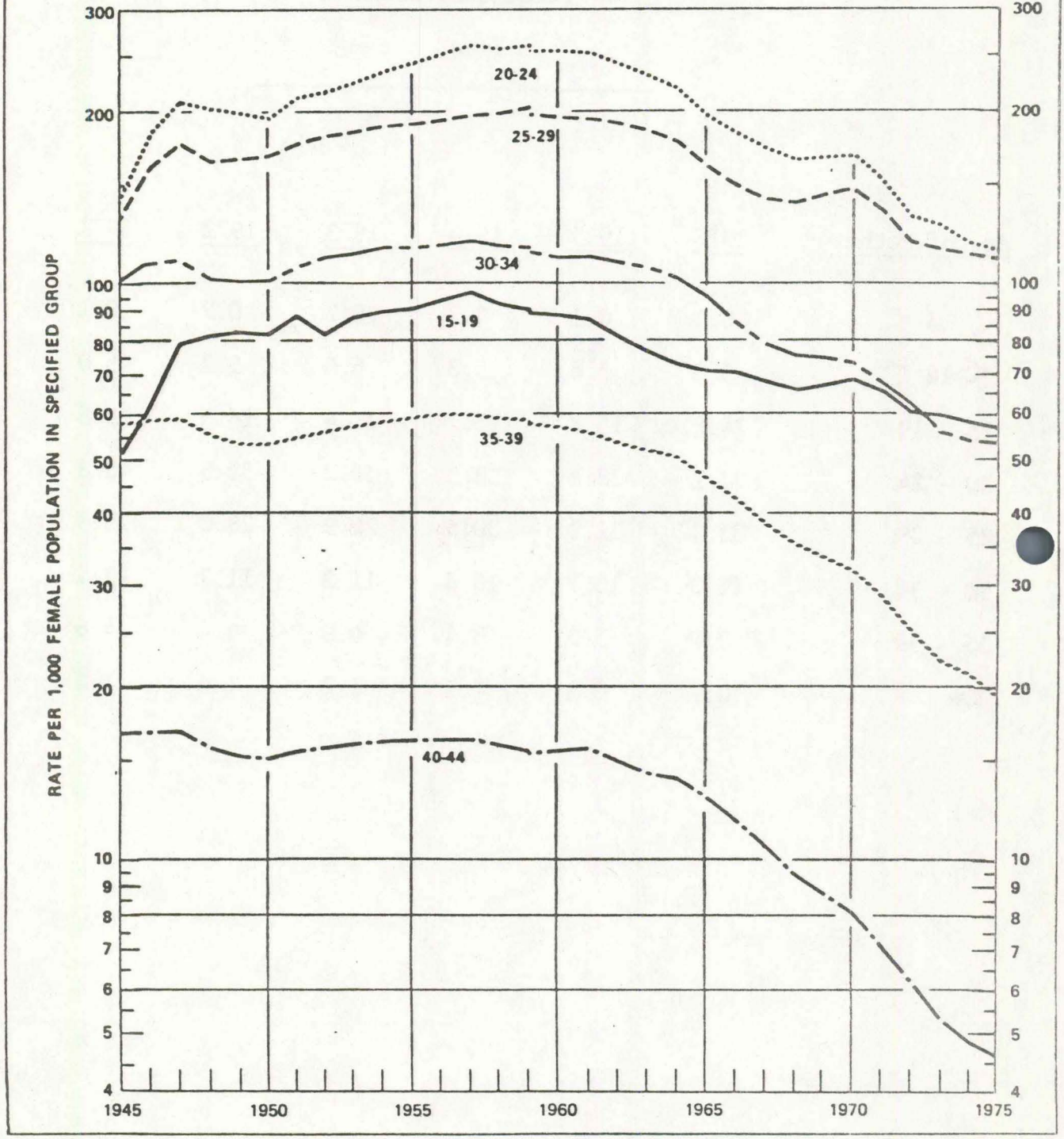
LIVE BIRTHS BY AGE OF MOTHER
IOWA
Percent of Total

Year

Age of Mother	1976	1975	1974	1973	1972	1971	1970
< 15	0.1	0.1	0.2	0.2	0.2	0.1	0.1
< 18	5.3	5.8	5.8	6.0	5.7	5.0	4.6
15 - 19	14.8	15.8	15.7	16.4	16.3	15.5	15.2
20 - 24	37.1	38.1	38.5	38.2	38.5	40.8	40.1
25 - 29	33.2	31.2	30.6	28.9	28.0	26.5	26.8
30 - 34	11.0	10.7	10.8	11.2	11.2	11.1	11.3
35 - 39	3.0	3.3	3.4	4.0	4.4	4.6	4.9
40+	0.7	0.8	0.9	1.2	1.4	1.4	1.6

Figure 2. BIRTH RATES BY AGE OF MOTHER: UNITED STATES, 1945-75

(Beginning 1959 trend lines are based on registered live births; trend lines for 1945-59 are based on live births adjusted for underregistration)



Monthly Vital Statistics
Advance Report
Final Natality Statistics, 1975
DHEW Vol 25 No 10 Supp. Dec 30 1976

PERINATAL DEATH RATES, BY OCCURRENCE IN IOWA HOSPITALS AND STATE TOTALS

1972-76

	1972	1973	1974	1975	1976
A	21.2	20.4	17.8	15.1	12.4
B	20.3	20.2	18.6	15.9	13.0
C	21.9	17.7	19.0	16.0	13.9
D	25.3	20.8	22.0	18.0	18.6
E	25.4	23.3	25.4	22.6	21.8
Hospitals	23.7	20.6	21.4	18.4	17.5

A Hospitals with less than 100 deliveries/year.

B Hospitals with 100-249 deliveries/year.

C Hospitals with 250-499 deliveries/year.

D Hospitals with 500-999 deliveries/year.

E Hospitals with 1,000+ deliveries/year.

$$\text{Perinatal} = \frac{FD+ND}{LB+FD} \times 1{,}000$$

Records & Statistics
Iowa State Department of Health
10/24/77

LIVE BIRTHS, FETAL DEATH RATE, NEONATAL DEATH RATE

Total Hospital Events Grouped
By Number of Deliveries

Group A -100 Births

Year	Live Births	Fetal Death Rate	Neonatal Death Rate
1972	2,247	7.5	13.8
1973	2,619	9.1	11.5
1974	2,501	11.1	6.8
1975	2,354	9.3	5.9

Group B 100 - 249 Births

1972	8,423	9.9	10.6
1973	7,801	10.3	10.0
1974	8,073	9.9	8.7
1975	7,441	7.5	8.5

Group C 250 - 499 Births

1972	7,881	9.05	12.9
1973	9,004	8.3	9.6
1974	8,814	9.7	9.1
1975	8,698	7.8	8.0

Group D 500 - 999 Births

1972	13,473	11.3	14.2
1973	11,027	8.8	12.1
1974	12,174	9.5	12.5
1975	11,488	7.4	10.5

Group E 1,000 + Births

1972	9,184	11.4	14.2
1973	8,698	10.2	13.2
1974	8,894	12.3	13.2
1975	11,677	10.8	11.9

Considering the subdivisions of the first year of life, the highest death rate is during t first day. The lowest rate occurs in the period of one week to one month.

The death rate during the first day has declined by 1.4 deaths per 1,000 live births compa to the rate in 1974. In addition, the current 4.8 rate has dropped by 4.5 deaths since 197

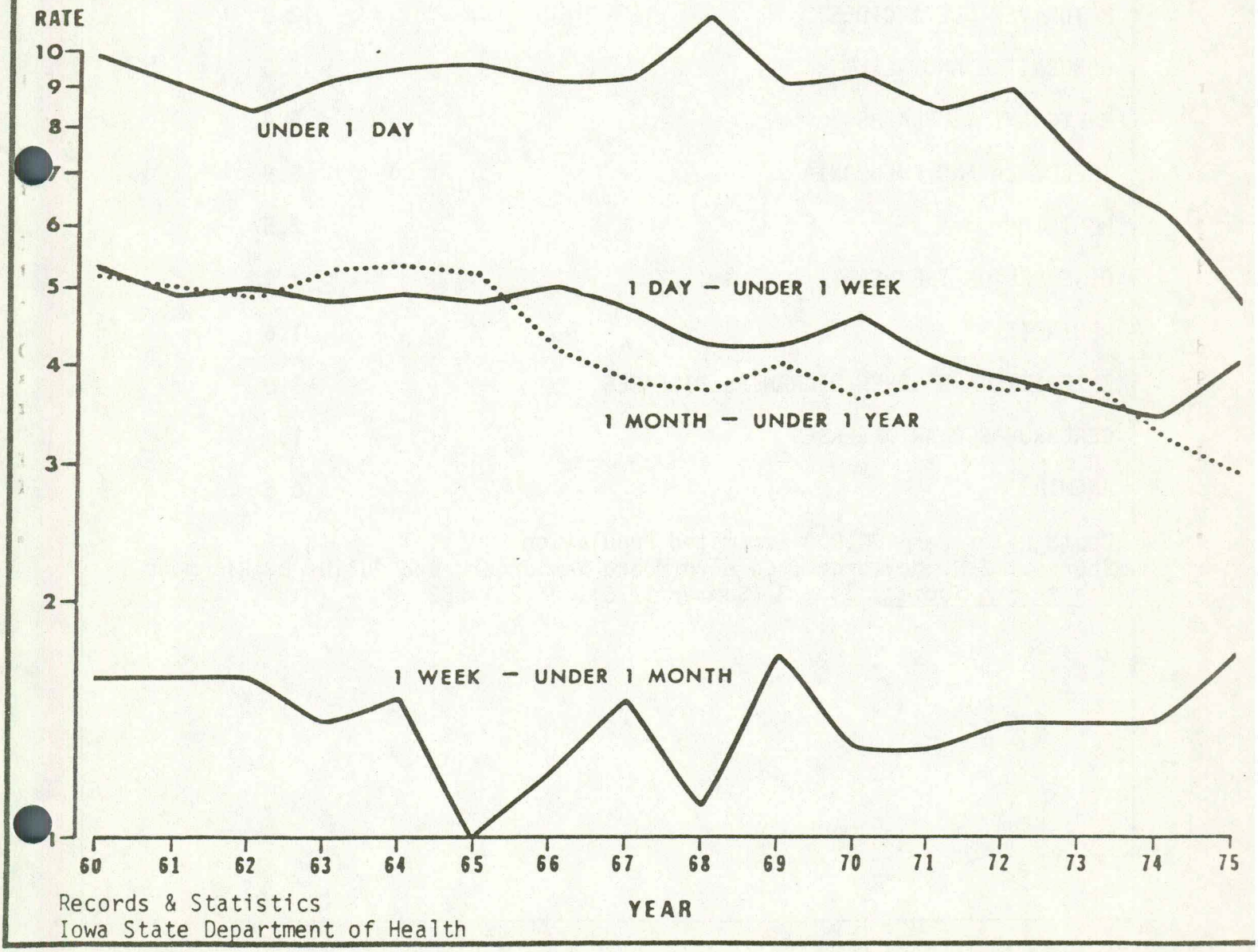
In contrast, the death rate for one day to one week has increased by 0.6 deaths in 1975. A though the rate had steadily declined since 1972, the current 4.0 rate is back up to the r for 1971.

Concerning the period of one week to one month, the death rate is up to 1.7 in 1975. This an increase of 0.3 deaths from the rate last year. After slowly rising since 1970, the pres rate is identical to the 1969 rate.

The death rate for one month to one year has decreased by 0.3 deaths from the rate in 1974. This 2.9 rate for 1975 is the lowest for the period beginning in 1960.

CHART 9

INFANT DEATH RATES BY SUBDIVISION OF THE FIRST YEAR OF LIFE
1960 - 1975 Resident Data
Rate Per 1,000 Live Births



Records & Statistics
Iowa State Department of Health

CAUSES OF INFANT MORTALITY AND CORRESPONDING INFANT MORTALITY RATES - 1974

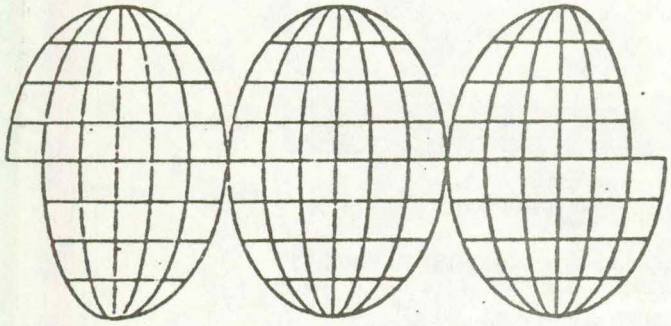
CONGENITAL ANOMALIES	2.9
INFLUENZA AND PNEUMONIA	0.9
BIRTH INJURIES	0.6
ASPHYXIA OF THE NEWBORN, UNSPECIFIED	1.5
IMMATURITY UNQUALIFIED	1.5
OTHER DISEASES OF EARLY INFANCY	5.3
CERTAIN GASTROINTESTINAL DISEASES	0.3
ALL OTHER CAUSES	3.7

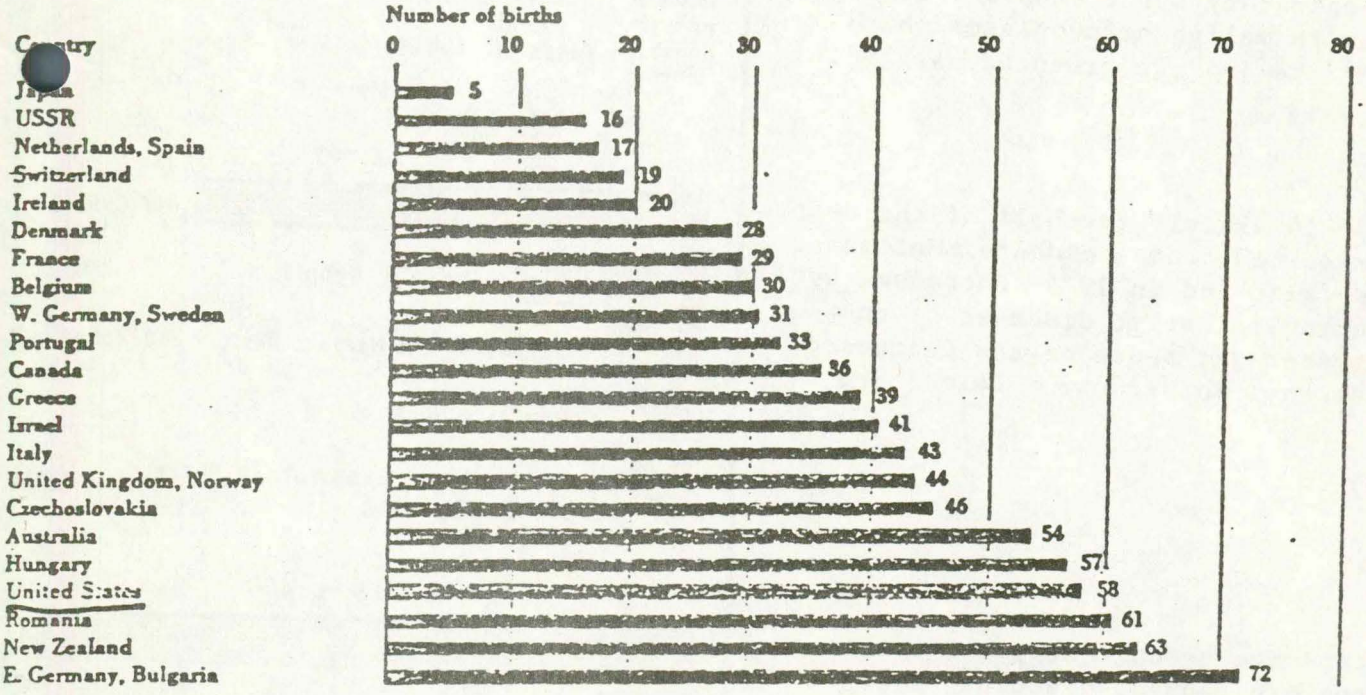
PRINCIPLE CAUSES OF DEATH OF CHILDREN ONE TO FOUR YEARS OF AGE - 1973

ACCIDENTS	19.6
MOTOR VEHICLE ACCIDENTS	12.3
CONGENITAL ANOMALIES	9.6
MALIGNANT NEOPLASMS	6.4
INFLUENZA AND PNEUMONIA	5.9
HOMICIDE	2.5
DISEASES OF THE HEART	2.1
MENINGITIS	1.6
ENTERITIS AND OTHER DIARRHEAL DISEASES	1.0
CEREBROVASCULAR DISEASES	1.0
ANEMIAS	0.6

Death Rates Per 100,000 Estimated Population
Source: E.H. Newberger, Carolyn Moore Newburger, and Julius B. Richmond. Health and Society 54: 3 (Summer 1976), p. 251-252

Figure 1. Number of births per 1,000 females aged 15-19, selected countries, 1970s





Certain causes of mortality in early infancy leads the list of causes of death in the under 1 age group. This category includes anoxia and hypoxia as the major causes. Other important causes within the category are hemorrhagic diseases, immaturity, and birth injuries. "Certain causes", however, has decreased by 4.5 percent from the percentage in 1974. In contrast, congenital anomalies has increased by 3.8 percent this year.

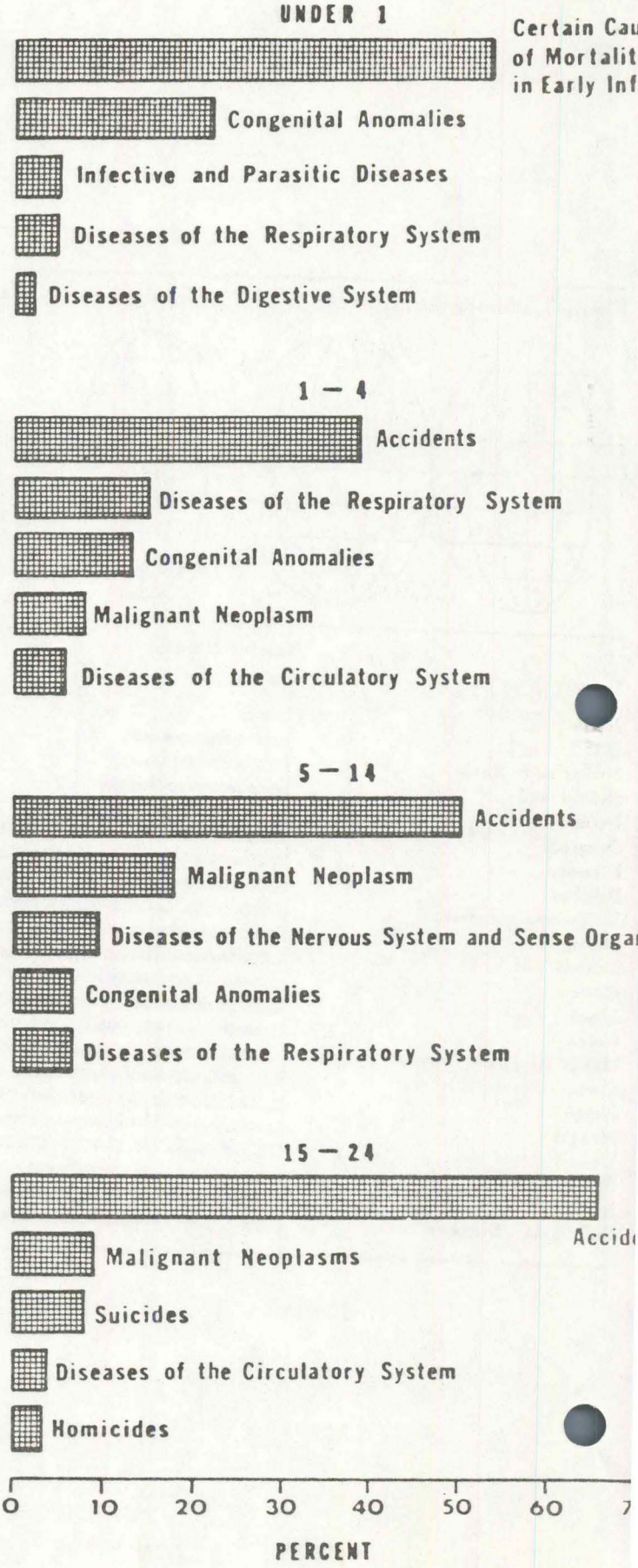
As in 1974, accidents remain the leading cause of death in this age group and in all subsequent age groups through 25-44. Nonetheless, the percentage for accidents within the 1-4 age group has dropped to 38.2 from 43.8 percent last year. Diseases of the respiratory system has interchanged rankings with malignant neoplasms which was 2nd in the 1-4 age group a year ago.

For ages 5-14 exactly one-half of the deaths in 1975 resulted from accidents. Malignant neoplasms - also 2nd in 1974 - increased by 2.9 percent. Similarly, diseases of the nervous system and sense organs increased by 3.4 percent. This cause remained 3rd.

Within this age group nearly two-thirds of the deaths are caused by accidents, 65.1 percent. This is up by 3.4 percent in 1975. Increasing by 1.9 percent from the percentage last year, malignant neoplasms replaces suicides as the 2nd leading cause.

CHART 6

LEADING CAUSES OF DEATH BY SELECTED AGE GROU
1975 Resident Data



TAB 10

OUT OF WEDLOCK LIVE BIRTHS BY YEAR BY AGE OF MOTHER
1950-1975 RESIDENT DATA

YEAR	TOTAL	UNDER 15	15-19	20-24	25-29	30-34	35-39	40-44	45-49	N.S.
1976	3,437									
1975	3,343	56	1,787	981	334	128	43	13	-	1
1974	2,959	56	1,613	842	296	92	48	12	-	-
1973	3,124	53	1,644	945	288	125	49	18	2	-
1972	3,146	60	1,657	978	283	110	38	17	2	1
1971	3,273	34	1,646	1,103	277	142	48	21	1	1
1970	3,495	47	1,724	1,220	292	129	62	21	-	-
1969	3,065	29	1,403	1,149	307	98	56	19	4	-
1968	2,960	35	1,354	1,089	256	119	72	34	-	1
1967	2,533	32	1,184	872	252	107	66	19	1	-
1966	2,423	25	1,151	796	231	126	71	20	1	2
1965	2,224	28	912	743	301	131	75	29	4	1
1964	2,001	22	789	704	261	109	79	27	1	9
1963	1,777	34	689	634	215	118	71	12	3	1
1962	1,637	23	642	579	188	119	67	16	2	1
1961	1,672	20	670	579	210	112	53	26	1	1
1960	1,476	25	626	492	168	93	49	17	3	3
1959	1,453	24	612	487	177	89	52	8	2	2
1958	1,305	22	556	396	163	95	47	21	2	3
1957	1,182	18	506	357	143	81	51	25	1	-
1956	1,161	22	471	370	159	69	48	21	-	1
1955	1,208	22	512	368	161	81	49	14	1	-
1954	1,098	20	441	356	142	82	41	15	-	1
1953	1,043	---	423A	349	143	72	55B	---	---	1
1952	1,037	17	394	333	148	67	69	7	-	2
1951	1,062	11	450	344	136	67	43	11	-	-
1950	1,065	12	457	360	136	57	35	8	-	-

A-UNDER 20 YRS
B-35 YEARS AND OVER

HEALTH SYSTEM

DESIRED SYSTEM

"For every child, health protection from birth through adolescence, including periodic health examinations and immunizations, and where needed, care of specialists and hospital treatment; regular dental examination and care of teeth; for the child who is physically or mentally handicapped, early diagnosis and the provision of care and treatment which will enable that child to achieve his or her maximum potential."*

The route to ensure that every child is born well, wanted, whole and without defect lies within the broad parameters of prevention. Prevention means the expansion and implementation of knowledge of reproductive biology, provision of full health services during the reproductive process, and public education concerning the strategies available to ensure a well born child.

In the next five years, the health care delivery system can have an impact on the achievement of the goals relating to reducing the perinatal mortality rate and reducing the incidence of mental retardation. However, one cannot overlook the importance of attitudes which are reflected in responsible decision making regarding family planning. Today, more than ever before, it is possible for women and men to seek out the best available information and medical advice. It is also important that individuals recognize that many factors contribute to a potential high risk pregnancy, especially life style and personal habits. Socioeconomic factors can also endanger a pregnancy, but these are generally more difficult to resolve.

*Iowa Council for Children Report

The Social Security Act, Titles V, X and XX, state and local appropriations available to the Maternal and Child Health Section of Personal and Family Health Division of the Iowa State Department of Health are utilized to assist in establishing support services in casefinding, screening, health supervision referral to appropriate providers and follow-up services. These funds are directed to serve the medically indigent population; however, when the system of delivering the services is established, the system forms a base to serve the total community.

The health system must include the capability to coordinate public and private health resources to assure continuity of care for the women in childbearing years and the children of Iowa. Currently, only one family out of seven medically indigent families is eligible for Medicaid. A system must be established to assure health care to the medically indigent population of Iowa.

The health system must have casefinding capability together with appropriate quality services, available and accessible to the population at risk.

Although family planning services are primarily utilized as a source of information regarding fertility, abortions, venereal disease, and birth control measures, they could also be an entry point which would link a woman with prenatal care both before and after pregnancy is confirmed. These services could also be an outreach component for those clients who might benefit from genetic counseling.

Genetic counseling is a communication process which deals with the human problems associated with the occurrence, or the risk of occurrence, of a genetic disorder in a family. This process involves first a diagnosis and then an attempt, by one or more appropriately trained persons, to help the individual and/or family:

- To comprehend the medical facts, including the diagnosis and probable course of the disorder;
- To appreciate the way heredity contributes to the disorder and the risk of recurrence in certain relatives;
- To understand the alternatives for dealing with the risk of recurrence;
- To choose the course of action which seems appropriate to them in view of their risk level and their family goals, and act in accordance with that decision;
- To make the best possible adjustment to the disorder in an affected family member or to the risk of recurrence of that disorder.*

All families in Iowa should have access to genetic counseling services.

*Robert Brent and Maureen Harris, eds., Prevention of Embryonic, Fetal and Perinatal Disease, DHEW Publication No. (NIH) 76-853, 1976.

PRESENT SYSTEM

There are multiple services available to Iowa maternal and child population from private providers, hospitals, categorical agencies and organizations, county health departments, state agencies, University of Iowa and Iowa State University and volunteer organizations.

The Maternal and Child Health Program and the State Crippled Childrens Program are two of the statewide efforts to coordinate public and private resources to establish care systems serving local areas.

The Maternal and Child Health Program supports primarily preventive and screening services as well as ongoing health supervision especially for the medically indigent eligible population.

The State Services for Crippled Children's Program is concerned basically with assuring diagnostic and treatment services for children with handicapping conditions.

The Health Systems Agencies in their current health plan identified needs and problems, and included a few goals and recommendations relating to maternal and child health; however, the primary information regarding the present system is based on the State Maternal and Child Health Plan.

The focus during fiscal year 1978 for the Maternal and Child Health Section is directed to provide appropriate consultation and technical services to each local Maternal and Child Health project, and local communities as required, and to refine the State Maternal and Child Health Section's procedures for program evaluation, to maintain the existing Maternal and Child Health services and to expand the scope of services as well as the availability of services to an increased population in the state.

The Maternal and Child Health section supports local approved projects by contractual agreements which establish services to be delivered, population served, delivery system and sources of fiscal support.

The current projects include the following:

MATERNAL HEALTH CENTERS

In the area of preventive medicine, quality prenatal care is of paramount importance. Good prenatal care is necessary for lowering infant mortality and ensuring the delivery of a healthy baby as well as the continued good health of the mother.

The Maternal and Child Health Section supports the efforts of four maternal health centers in Iowa, providing services in 12 counties. (See map in Appendix for location.)

Residents from the OB-GYN Department of the University of Iowa Hospitals staff three of the centers, and a private OB-GYN Specialist provides the medical services in one of the centers.

Services provided in the maternal health centers include prenatal care and education, dental health education, nutrition counseling, referral for and follow-up of delivery either within the local community or the University of Iowa Hospitals, and postpartum care including referral for family planning services.

Maternal health services for the low income currently are limited in Iowa. Efforts will be made during fiscal year 1978 to initiate planning for two additional maternal health centers.

The provision of prenatal care services to high risk women is important because these services improve the newborn's chances of survival and normal development as well as protecting the health of the woman. Prenatal care for all women, commencing in the first trimester of pregnancy, allows for the early detection of the maximum number of high risk pregnancies. In 1975, more than 100 pregnant women received no prenatal care and 7,232 did not receive prenatal care in the first trimester. The perinatal death rate of women with no prenatal care is 4 or 5 times greater than for women receiving adequate prenatal care.

CHILD HEALTH CENTERS

The Maternal and Child Health Section provides infants and children with preventive care services through the sponsorship of child health centers. The Centers serve infants from birth through childhood and provide services to clients utilizing preventive techniques, periodic health appraisal and anticipatory parental guidance.

Health supervision services provided by the child health centers include physical examinations, dental screening, nutritional assessment, hearing evaluations, vision screening, urine testing, development screening, and referral and follow-up to assure a continuum of care.

Currently there are only nine child health centers (A-1) providing services in 23 of Iowa's 99 counties. The goal for this fiscal year is to complete the implementation of three new child health centers and to initiate planning for one additional child health center.

Failure to detect and correct potentially handicapping conditions such as birth defects can result in limitations for persons who could otherwise have led normal lives. Furthermore, inadequate health care, nutrition, nurturing and stimulation during early childhood may make it difficult for an individual to do well in shcool, find a job and, in turn, raise children who will become productive citizens.*

CHILD HEALTH SCREENING SERVICES

In collaboration with the Department of Social Services, the Maternal and Child Health Program has established 32 community centers to provide the Early Periodic Screening and Diagnostic Treatment (E.P.S.D.T.) examinations for qualified recipients. These centers provide assessments of physical development, sensory perceptual development, emotional and mental development, and include selected laboratory studies in order to detect deviations which require follow-up diagnosis and treatment as required.

*Iowa Council for Children Report

The Maternal and Child Health Section provides initial training and periodically offers continuing training for the nurses involved both in the skills necessary for providing assessments and in the requirements of the E.P.S.D.T. program.

PUBLIC HEALTH NURSING

Public health nursing services in Iowa are provided mainly through the Nursing Section, located within the Community Health Division in the State Department of Health.

Maternal and Child Health program and the Community Health Division jointly support counties to make public health nursing services available to all Iowa counties. The funds are used to assist individual county boards of health to hire their own county public health nurses.

Presently, 70 of Iowa's 99 county boards of health participate in joint funding with the state of their county public health nurses. In addition, approximately 28 other Iowa counties provide their own nursing services utilizing their own nursing and fiscal resources (i.e., visiting nurse associations (VNA's), hospital-based nurses, revenue sharing, and other county funds). This brings to 98 the total number of Iowa counties having direct nursing services available to them. Nurses in these counties are responsible for a general nursing service program, including maternal and child health nursing services.

The county public health nurses submit monthly nursing reports and are responsible to 14 regional supervisory nurses employed by the Community Health Division and located in regional health offices.

DENTAL HEALTH PROGRAM

The Dental Health Section of the Personal and Family Health Division provides a variety of preventive dental health services which assist the Maternal and Child Health Section in its comprehensive health care efforts. Programs carried on by the Section include the Community Water Fluoridation Program,

and the School Dental Program which incorporates the Topical Fluoride Demonstration Project. In addition to these activities, the Director of the Dental Health Section directs and monitors the Dental Health Project of the Program of Projects.

In an effort to improve the quality and quantity of dental care available to mothers and children, the Dental Health Section provides technical assistance, monitoring, and consultation to the dental components of the Children and Youth Project, Maternal and Infant Care Project, Mason City Maternal and Child Health Center, and other Maternal and Child Health Centers throughout the state.

School Dental Health Programs provide basic dental health education to children at the elementary school level and also include the topical fluoride rinse program as a dental caries preventive. School programs are available as either Team Programs or Small Scale Programs and differ only in their method of delivery. Team Programs utilize three dental hygiene students from the University of Iowa, assisted by the school nurse or classroom teacher, who are supervised by a Public Health Dental Hygienist from the Dental Health Section of the IowaState Department of Health. Content of the programs consist of the presentation of basic dental health facts on the causation and prevention of dental disease, instructions on tooth brushing and the use of dental floss, and the initiation of a fluoride mouthrinse procedure which requires parental permission. Flossing is taught to children in the upper grades only due to inadequate manual dexterity in the lower grades. Some children may receive dental sceening, although not a complete dental examination, does provide the school nurse names of children for follow-up with the parents and family dentist.

The Small Scale Programs are recommended for smaller elementary schools or for a few grades in any school. Although less structured than the Team Program, content of the program is the same and differs in that the program explanation and teacher/nurse instruction is conducted by the Dental Health Section's Public Health Dental Hygienist. Both programs are designed for 1st and 2nd Grades and either 4th, 5th or 6th Grades. Brushing and flossing are followed up in the classroom for a period of six weeks to allow for reinforcement of the instruction given by the dental hygienist. The fluoride rinse procedure is carried out weekly the remainder of the year.

Since a limited number of schools can be reached in a school year by the staff, the programs can be carried on in succeeding years by the school nurse and/or classroom teacher. Most of the materials and supplies are provided at no cost to the schools upon request.

The Community Water Fluoridation Program has as its goal the adjustment of fluoride-deficient public water supplies to reduce th e incidence of dental caries in the population. Communities of less than 5,000 population may apply for Maternal and Child Health funds through a grant program which will match local funds on a dollar-for-dollar basis to a maximum of $1,500 for the installation of fluoride equipment.

As of January 1, 1979, 86 percent of the population in Iowa served by a public water supply has the benefit of either natural or controlled fluoridation. In addition, 27 percent of the state's population is not served by a public water supply, and it is unlikely that this segment of the population will ever be accessible to fluoride water supplies. However, the children growing up on fluoridated water supplies can expect up to two-thirds less tooth decay than children raised in areas with fluoride deficient water supplies.

A "Dental Health Center Project" in Linn County in FY 1976 established a dental center at St. Luke's Hospital in Cedar Rapids, where a Child Health Conference and a Family Planning Project are also situated. The project's goal is to provide high quality, comprehensive dental care to children from birth to age 18 of low-income families who cannot afford the services of a private dentist and who would otherwise not receive adequate dental care.

The Des Moines Health Center will provide dental care to nearly 4,000 indigent children in FY 1978. The Linn County Dental Health Center will serve approximately 600 children, the Children and Youth Project 1,200, and Community Opportunities, Incorporated will provide care to an additional 200 children.

Preventive dental health educational programs are conducted by the Dental Health Section in elementary schools each year in Iowa. These programs include instruction in oral hygiene, basic dental health, and introduce a weekly fluoride rinse as a decay preventive measure. Approximately 28,000 children will be involved in the fluoride rinse program during FY 1978.

Dental Health Project
for Children

The Iowa State Department of Health has contracted with the Des Moines Health Center to operate the project. This center is a nonprofit agency supported by voluntary and public funds. It provides medical well child care and dental care for low-income families residing or working in Polk County and some of the counties surrounding Polk County. A Board of Directors administers the entire operation through a full-time executive director.

The Director of the Dental Health Section of the Iowa State Department of Health has overall responsibility for design, supervision, evaluation, and reporting of the project and serves as project director.

Dental screening, diagnostic, and preventive services are provided all children of preschool and school age, 0 through 18, from families residing or working in Polk County and three counties surrounding Polk County which are to be determined in the coming fiscal year. Treatment, correction of defects, and aftercare are available only to children who would otherwise not receive such services because they are from low-income families or for other reasons beyond their control.

The goal of the Health Center's Children's Dental Health Project is to provide quality dental care and prevention for the children of low income families who live and/or work in Polk County, with the emphasis-priority on saving teeth whenever possible, and the development of life-long good dental health habits.

In program year 1977, the Dental Project processed 7,984 visits, an increase of 21.7 percent over 1976 program year. In 1978 the project expects to serve 3,800 children providing 9,500 units of care. 3,800 children represents approximately 50% of the eligible medically indigent population not covered by Title XIX.

The Children's Dental Health Project is expected to result in better dental health for low-income families, and to prevent many of their future dental problems.

The project's effectiveness will be measured by three primary criteria;

1. Is the project seeing an increasing number of eligible children?
2. Is the number of children having all dental care completed increasing? And are an increasing percentage of children being brought in for six-months-recalls?
3. Is the cost per visit at a reasonable level? The Center's dental committee shall be primarily responsible for periodically reviewing patient treatment plans, scheduling techniques, and care quality of the Center's dental programs.

The Board of Directors of the Health Center in March of 1977 mandated their executive committee to oversee the quality and effectiveness of care provided by the Health Center's staff, and monitor progress throughout the year on meeting the stated objectives.

MATERNITY AND INFANT CARE PROJECT

A portion of Title V funds available to Iowa support the Maternity and Infant Care Project. The Maternal and Infant Care Projects throughout the United States have demonstrated that with early entry to comprehensive health care including medical, dental, nutritional and social services the mortality and morbidity rates for the mother at risk andtheir infants can be significantly reduced.

The purpose of the Maternity and Infant Care Project in Area XV is to demonstrate that in a low-income rural area it is possible through support and coordination to mobilize and meld available resources into a comprehensive health program for pregnant women and infants under one year of age.

Based upon vital statistics, social and economic indices, and demographic data, the Iowa State Department of Health implemented a Maternity and Infant Care Project in Area XV. Area XV is composed of the following 10 counties: Appanoose, Davis, Keokuk, Mahaska, Van Buren, Jefferson, Wapello Monroe, Wayne, and Lucas. The results of the above studies indicated a definite need for a non-fragmented delivery of maternity and infant services for medically indigent and high risk families.

The long-term goal of the Iowa State Department of Health is to provide comprehensive health services in the 10 counties in Area XV. As of October 1, 1977, five additional clinics were delivering comprehensive services in Wapello, Appanoose, Davis, Monroe, Keokuk and Van Buren Counties.

During the Project Year 1977, services were provided to 475 mothers and 351 infants for a total of 826 patients. This total represents new enrollments and carry over patients from the previous year who continued to receive services.

CHILDREN AND YOUTH PROJECT

The Children and Youth Projects have demonstrated that when children and their families have casefinding, medical, dental, nutritional and social preventive, diagnostic treatment and correction of defects, and follow-up services, acute hospitalization costs for the population served are reduced by 50% within three years.

The project has been administered by Community Health Care since December 1, 1976. Community Health Care is a private, nonprofit corporation which was established in 1975 as a result of the Illowa Health Planning Council's study on Ambulatory Health Care and their subsequent recommendations.

The purpose of the Children and Youth Project is to provide comprehensive, continuous health services to children six years of age and under and their siblings under 18 years of age, in particular children from low income families within the target areas of Scott Sounty. These services will focus on health promotion and will utilize a multidisciplinary team approach to meeting the medical, physical, social and emotional needs of the children enrolled.

Long range goals for the Children and Youth Project are:

1. To expand the funding base through increased local support.
2. To coordinate more fully health care services - at all levels and for all disciplines - for children in Scott County, and especially for children and youth enrollees.
3. To strengthen evaluation procedures to monitor the effectiveness of project components.
4. To expand the dental program to provide comprehensive dental care on site for children and youth enrollees.

The Children and Youth Project fills an important gap caused by the shortages of physician and child health services. This shortage has been compounded by insufficient knowledge of health care by the target families. Prior to the Children and Youth Project, complete physical assessments, social work, mental health screening, nutritional counselling, and health education were generally lacking for target area children. Fifty percent of present enrollees could not identify a family physician.

The Children and Youth Project supplements existing services and coordinates new services to assure quality health care to eligible children.

INTENSIVE INFANT CARE PROJECTS

The Intensive Infant Care Projects based primarily on the Perinatal Programs have developed in many states regionalized services to assure appropriate care of women during pregnancy, delivery and post-partum care and of their infants.

The overall goal of the Intensive Infant Care Project for the State of Iowa is to reduce the mortality and morbidity of all high-risk infants born either to normal or high-risk pregnancies. This will involve maintaining the regionalized service program which presently exists and to enhance its capability for serving all high-risk pregnancies and newborn infants. The major emphasis of the program will be directed towards enhancing the capability of the existing system by supplying an educational and consultative support system. Special emphasis will be placed on providing additional consultation to those parts of the system which are in need of that consultation. The ultimate will be to improve perinatal care, improve the transportation capability for the mother or newborn, enhance the follow-up of newborns, and finally to solidify the regional primary, secondary and tertiary hospital concept for the State of Iowa in the care of the high-risk pregnancy and infant.

Since the existing standards are developed for utilization in large metropolitan areas with maximum resources and do not consider the problems of a predominantly rural society such as Iowa's, the program has initiated an advisory committee which as representation on it of the American Academy of Pediatrics, the Iowa Obstetric and Gynecological Society, the Iowa Nurses' Association, the Iowa Hospital Association, Iowa Academy of Family Practice, Iowa Chapter of Osteopathic Physicians and Surgeons, Departments of Pediatrics and Obstetrics of the University of Iowa and the staff of the Maternal and Child Health Section of the Department.

This committee will develop standards of perinatal care for Level I, Level II and Level III hospitals. When finalized, these standards will become the standards of the Intensive Infant Care Program for the State of Iowa. The Intensive Infant Care Project will make available a system of services for all high risk pregnancies and newborns within the State of Iowa. Thus, the total population eligible for services is the entire birth population of Iowa. The target group is composed of high risk mothers and infants.

FAMILY PLANNING PROJECT

To enable persons in all walks of life to determine whether and when to become parents. And to have their children at times and under conditions that are optimal for their social, physical, economic well-being is the program goal.

Family Planning Services are available to residents of all 99 Iowa counties through fifteen delegate agencies.

Clinics providing family planning services have been established in 33 Iowa counties. In other areas, agencies have established physician referral networks where local physicians are reimbursed for providing medical examinations and agency staff provide educational and supportive health services.

Medical Services

Family Planning Services include the following:

a. Medical history and consultation

b. Family planning counseling and education

c. Pelvic examination

d. Breast examination

e. Pap smear

f. Blood pressure

g. Hematocrit or hemoglobin

h. Urinalysis

i. Pregnancy testing

j. Venereal disease testing

k. Provision of contraceptive method

l. Sterilization counseling, referral and treatment

m. Infertility counseling and referral

n. Other laboratory tests, as indicated

o. Pregnancy information and referral

p. Referral to other health and social service providers

q. Breast self-examination instruction

Family planning services, including the provision of a prescription or nonprescription contraceptive method, are provided by all family planning agencies to patients who request such services. All medically-approved methods of contraception are available to family planning patients, under the supervision of qualified medical personnel. Although the oral contraceptive pill is by far the most commonly used method, patients are offered other methods:

Intrauterine Device	Condom
Diaphragm	Natural Family Planning Methods
Spermicidal Foam, Jelly or Cream	Female or Male Sterilization

Contraceptive treatment, including the provision of prescription and nonprescription supplies, is provided free of charge to patients with family incomes below the Maternal and Child Health Eligibility Guidelines.

Patients requesting sterilization treatment, i.e., the performance of a surgical sterilization procedure, are usually referred to another health provider. If patients require financial assistance in order for a sterilization to be provided, family planning agencies assess whether the patient is eligible for Medicaid reimbursement or assistance through University Hospitals. If other funding is not available, the family planning agency may subsidize the procedure. Sterilizations which are arranged for and/or funded by family planning agencies are performed and reported in accordance with 42 CFR 50.201 (et. seq.) and the moratorium set forth at 38 FR 20930.

Infertility services, involving extensive testing, diagnosis and treatment, are provided through referral to other health providers. These services are not usually financially supported by family planning agencies. Initial screening and counseling regarding sterilization and infertility are provided routinely by family planning staff.

Some family planning agencies provide treatment for family planning-related health problems such as vaginal infections, abnormal Pap test follow-up, and sexually-transmitted diseases. If treatment is not provided by a family planning agency for a condition identified or diagnosed during a family planning visit, a referral is made to another health care provider. All such patients are followed to assure that the referral is completed.

Medical services provided to family planning patients are under the direction of physicians with training and experience in family planning. Each delegate agency has a medical director who is responsible for the establishment of medical policy and procedures which insure appropriate supervision of staff providing medical services. In addition, medical consultation is provided to the agencies by the Health Department's Maternal and Child Health Medical Director and Obstetretics/Gynecology Consultant.

Agencies' medical directors supervise the provision of services by other family planning staff including nurses, nurse practitioners, and other allied health personnel.

Family planning services are provided in a manner which assures comprehensiveness and continuity in the management and supervision of service delivery. Medical policies and standards require the provision of extensive follow-up.

Family planning services are provided in all 99 Iowa counties. Although each of the 15 delegate agencies has an assigned geographic area of responsibility, patients may choose to receive services from any agency in the state. Agencies do not extend patient recruitment efforts beyond their area of responsibility. They are responsible for insuring that services are made available to persons who live in all the counties within their assigned territory.

Family planning medical services are delivered promptly following a patient's initial contact with an agency. A typical first contact with an agency is a telephone or walk-in request for contraceptive services. Staff do initial screening in order to assign an appropriate appointment. Every effort is made to schedule a medical examination within a few days. Temporary contraceptive protection is offered whenever a delay may occur.

COUNCIL ON ADOLESCENT PREGNANCY

In September of 1977, the Division of Personal and Family Health Services, established a Council on Adolescent Pregnancy. The purpose of the Council is to identify workable approaches to assure the coordination of medical, phycho-social and educational services to the adolescent during the preconceptual, prenatal, natal and postnatal periods, continuing for at least one year, or if she keeps the infant, until her child reaches the age of five.

The Council will encourage and support regional and local workshops which bring together those professional disciplines impacting on the adolescent to increase their awareness to the extent of the problems and assist communities in

the development of appropriate services to intervene in the cycle of adolescent pregnancy, child abuse, school dropouts, unemployment and repeated pregnancies.

The Council will also assist the Personal and Family Health Division in carrying out clearinghouse activities, i.e., training sessions or meetings with the state or surrounding states, resource persons for workshops or meetings, or media material pertinent to the purpose of the Council.

SPECIAL PROJECTS

CHILD STUDY CENTER/DES MOINES

Assessment and evaluation services for developmentally handicapped children are provided by the Child Study Center, located in Des Moines, The Center is jointly funded by state and local monies. On staff are a physician, psychologist, medical social worker, and public health nurse. Diagnostic services, the main function of the Center, are offered free to low income children with developmental delays, learning disabilities, mental retardation and social or behavioral problems. Follow-up of children is done by the Child Study Center and other appropriate agencies.

The Maternal and Child Health Section will continue to encourage increased financial and programmatic support from public and private agencies in Polk and contiguous counties served by the Child Study Center.

RURAL LINN COUNTY

The Public Health Nursing Association has employed a full-time program facilitator. The program facilitator works with other community agencies to establish child health centers in rural Linn County and informs potential participants of the availability of services.

MIGRANT HEALTH PROJECT

The Migrant Health Project in Muscatine serves a five county (three in Iowa, two in Illinois) area. The project provides medical, dental and nursing services to migrant workers and their families. Specific services offered by the Project through direct provision and/or referral include:

Prenatal and postnatal care	Visual
Well child care	Audio screening and follow-up
Immunizations	Health education
Dental	

BIRTH DEFECTS/GENETIC COUNSELING PROGRAM

This Program was begun in 1976 and offers indepth counseling and follow-up for families involved with a birth defect or genetic desease. This program also presents public and lay educational programs as well as consultation and continuing education for professionals in birth defects and genetic diseases. The genetic expertise of this program is provided through a contract with the Genetics Center of the Department of Pediatrics of the University of Iowa.

Once a family is entered into the program, a detailed genetic history is obtained and the family is provided with an indepth assessment of the problem and counseling by the genetic team. Following this session, the family is followed by the regional counselor who provides further explanation and counseling in order to assist and support the family in their decision-making process. The counselor maintains a liaison with the family in order to identify any further needs for counseling and to assist the family in identifying and obtaining assistance from any other resource as indicated.

The Program offers clinics in Mason City, Waterloo, Dubuque, Cedar Rapids and Davenport which provide some diagnosis and total counseling for the residents of the northeastern quadrant of Iowa.

The Program will expand its activities to the central region (Polk and the eight surrounding counties) during the fiscal year. Clinics were established in Des Moines and Ames and are providing service on January 1, 1978.

The program's long-range goal is to make this service available to all geographic areas of the state and to develop an epidemiologic approach to the problems associated with birth defects and genetic disease.

SUDDEN INFANT DEATH SYNDROME (SIDS) PROGRAM

The Iowa SIDS Program provides information and counseling services to families and related individuals (i.e., babysitters, relatives, neighbors) who may be involved with the loss of an infant to the Sudden Infant Death Syndrome.

The management system in Iowa involves immediate referral to a local "crisis counselor". There is a SIDS counselor identified for every county in Iowa. In most instances, this is the local public health nurse. An offer of referral is also made to one of the two SIDS parents groups currently functioning in Iowa. A coordinated case plan is then implemented, utilizing both the public health nurse and the parent group. Families are routinely followed for one year after the death. Should serious mental health problems occur, consultation is available from the Des Moines Child Guidance Center.

Another principal objective is to provide workshops for these professionals (i.e., physicians, nurses, law enforcement personnel, ambulance crews, etc.) that could potentially be involved in a SIDS case. Seminars are conducted by program staff and are specifically tailored to the role of those professionals attending.

WIC

The WIC Program in Iowa is a component of the Division of Personal and Family Health. The grant funds are provided by the United States Department of Agriculture and are supporting WIC services in 87 of Iowa's 99 counties. (See A-3)

Pregnant and postpartum women, infants and children to five years of age are eligible for services under the Program, which is designed to improve a mother's nutritional status and the diet of her children, by increasing the knowledge and encouraging the practices of good maternal and child nutrition and supplying iron-enriched formula, fresh milk, cheese, eggs, fruit juice and cereal.

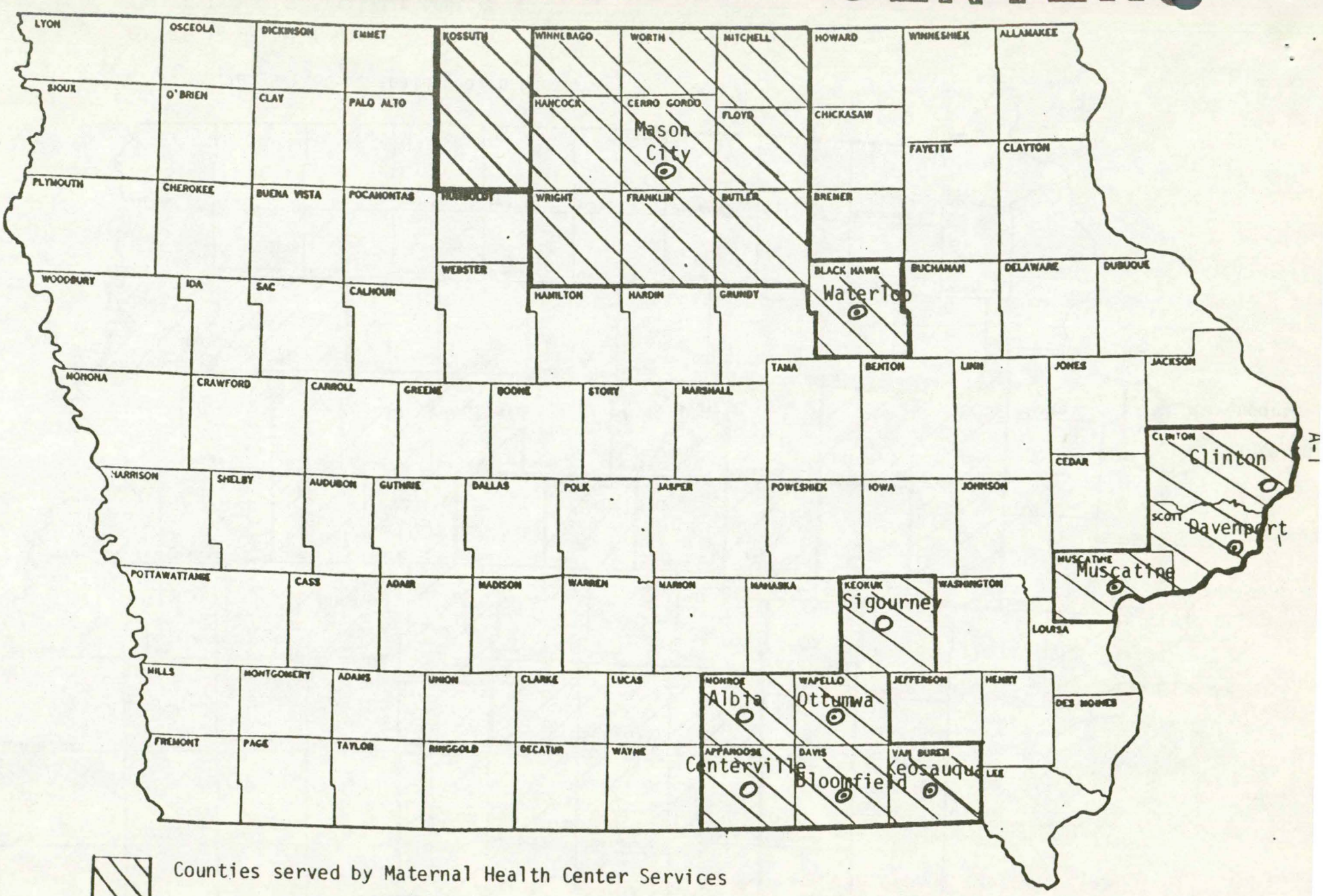
During fiscal year 1978, emphasis will be placed on strengthening the nutrition education component of the Program.

RHEUMATIC FEVER PROPHYLAXIS PROGRAM

This Program was begun in July, 1977 as a result of action of the Sixty-Sixth General Assembly, replacing the program previously conducted by State Services for Crippled Children.

The Program provides penicillin or other appropriate preparation (when indicated) for the prophylaxis of recurrent streptococcal infection of the patient who has had an episode of Rheumatic Fever. Medication is provided to the patient's parent or guardian by public health nurses who reinforce the importance of maintenance of prophylaxis.

MATERNAL HEALTH CENTERS



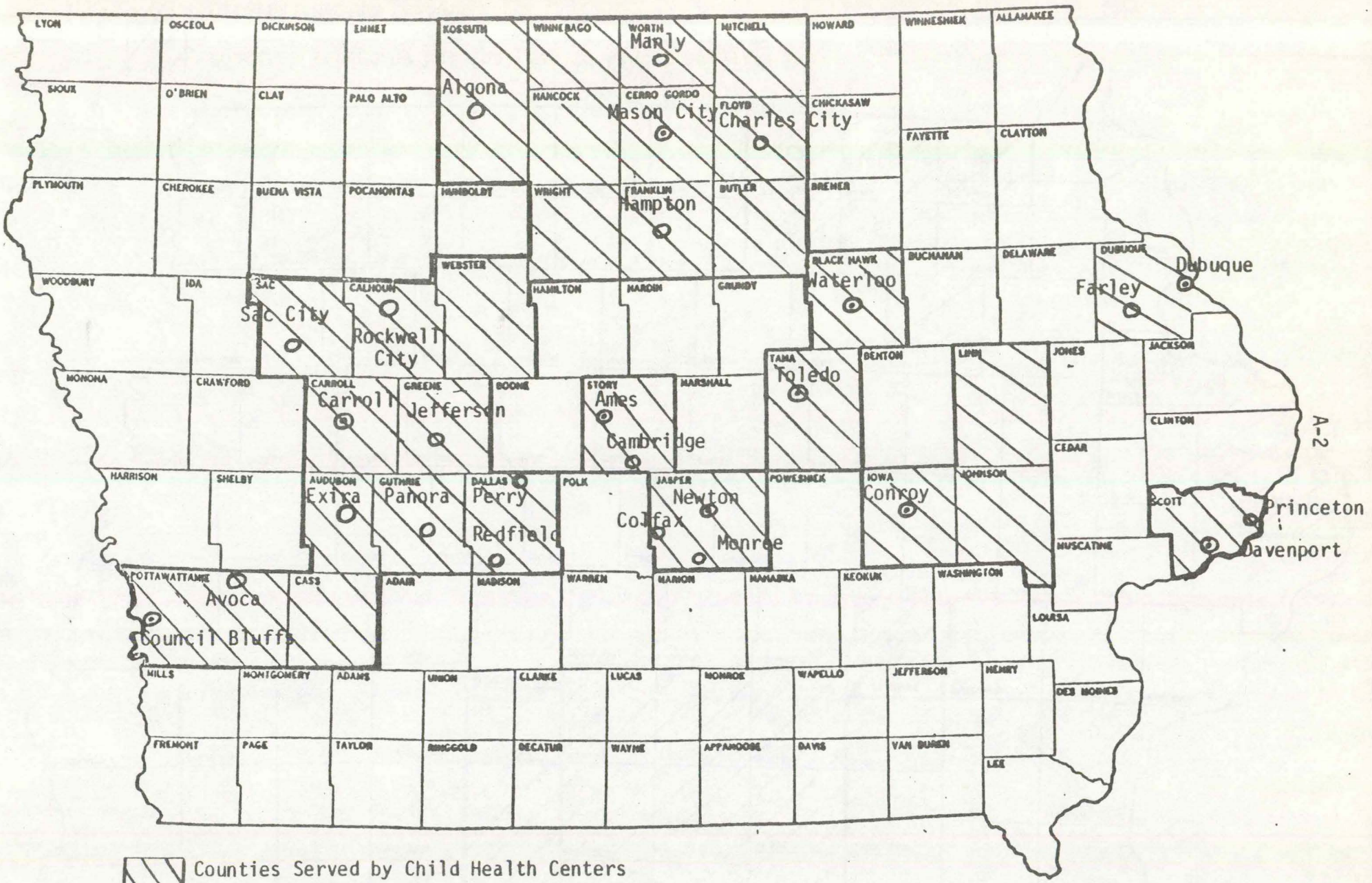
Counties served by Maternal Health Center Services

Maternal Health Centers

Maternal Health Satellite Centers

A-1

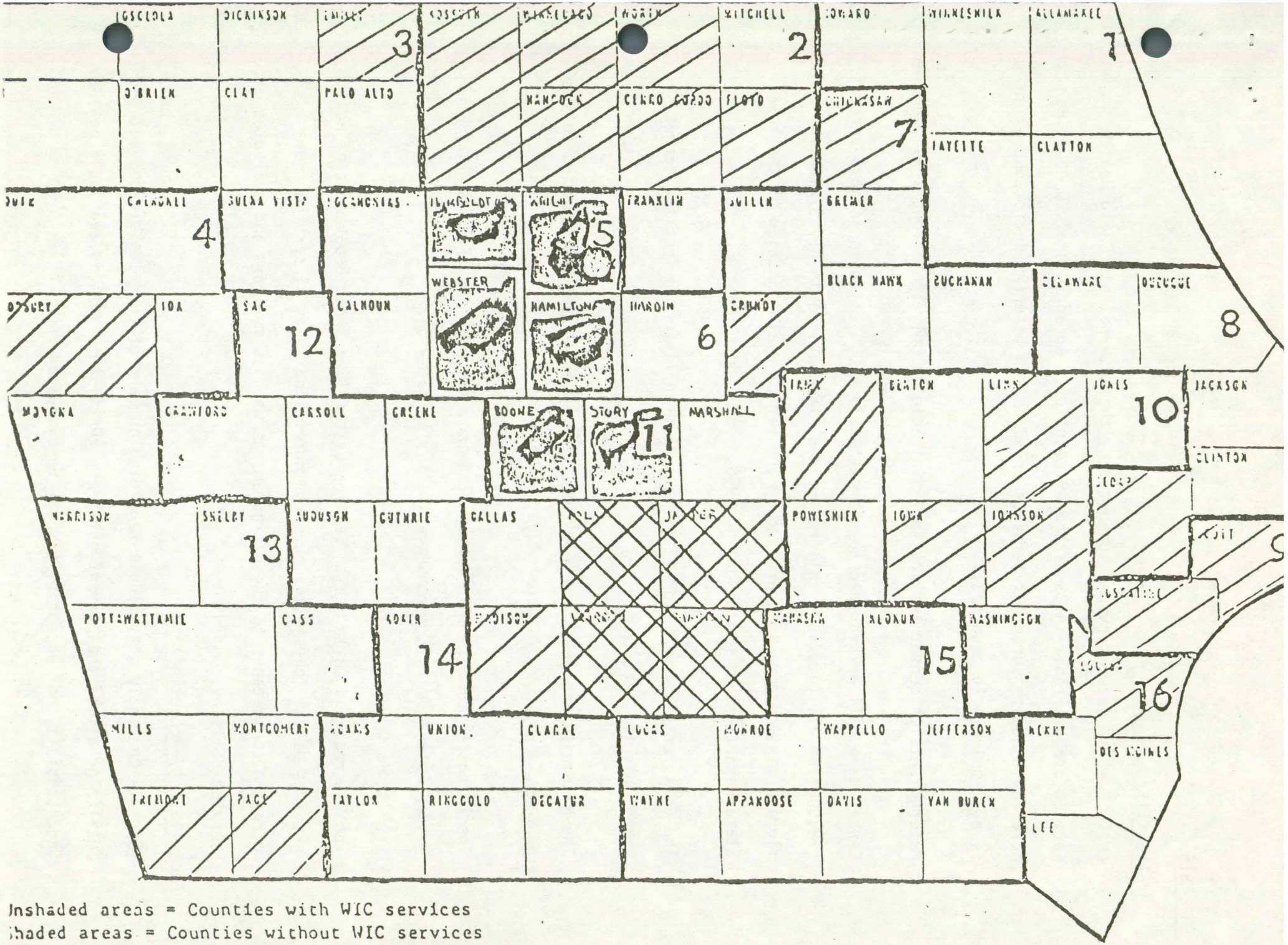
CHILD HEALTH CENTERS



Counties Served by Child Health Centers

Child Health Centers

Child Health Satellite Centers



Unshaded areas = Counties with WIC services
Shaded areas = Counties without WIC services
Criss-Cross = Counties with Supplemental Food Program
Slanted Lines = Counties with Migrant or Indian Population

ANALYSIS

Availability

Child Health Center services supported by the Maternal and Child Health Section are available in 23 of the 99 counties. An additional 20 counties have child health screening services only. Birth Defect/Genetic Counseling is available in 24 counties.

Maternal health center services are available in only 12 of Iowa's 99 counties.

Dental care will be provided to approximately 6,000 children and 6.6 percent (28,000) of all (420,163) children grades K-8, will be involved with the floride rinse programs supervised by the Dental Health Section of the Iowa State Department of Health during 1978.

The Children and Youth Project serves children living in specific target areas only in Scott County.

The Maternity and Infant Care Project serves six of the ten counties in the Governor's Planning Area 15.

The Intensive Infant Care, Family Planning, Rheumatic Fever Prophylaxis, Sudden Infant Death Programs are available statewide.

Quality

The Maternal and Child Health Section of the Iowa State Department of Health provides dental, physician, nursing, nutritional, social service and planning consultants to these programs as well as monitors and evaluates service delivery.

Accessibility-Acceptibility

Data is currently unavailable regarding numbers of the eligible population utilizing all of the current services. Until this data is available neither accessibility nor acceptibility may be evaluated.

Cost

Congressional priorities, particularly,

> The development of effective methods of educating the general public concerning personal (including preventive) health care,
>
> The provision of primary care services for medically underserved populations, especially those which are located in rural or economically depressed areas, and
>
> The promotion of activities for the prevention of disease including studies of nutritional and environmental factors affecting health

relate directly to the maternal and child population.

However, though the long-term impact of the provision of appropriate prevention and early treatment services to maternal and child population will be to reduce short and long-term institutional and acute care costs, the costs of delivering appropriate health services to the maternal and child population will be great.

Service unit or per participant costs for current services are currently unavailable.

The goals for the Maternal and Child Health component are directed toward expanding the current system to the level of the desired system and the health status goals.

GOAL 1: STATEWIDE COMPREHENSIVE HEALTH SERVICES, ESPECIALLY PREVENTIVE FOR WOMEN (AGES 15-44) AND CHILDREN (AGES 0-12).

Comprehensive health services includes not only physical examination and medical care, but also dental, nursing, social work, nutrition, and other health care as appropriate. Comprehensive health program services include casefinding and ongoing health supervision which would assure health education, assessment, counseling, referral to the appropriate health, medical, social or other providers, and appropriate follow-up for the maternal and child population of Iowa.

Objective 1: Statewide dental health education programs which include teaching of dental hygiene skills available in elementary schools, grades Kindergarten through 3rd by 1982.

Objective 2: Fluoride rinse programs for all children using private water supplies by 1982.

Recommended Action:

LRRA: Iowa State Department of Health will develop plan which includes agreements with State Department of Public Instruction to provide for curriculum, staff requirements and costs.

SRRA: Iowa State Department of Health will evaluate participation and effectiveness of current programs.

SRRA: Iowa State Department of Health will identify priority areas based on need.

Objective 3: Community water floridation available to 93 percent of Iowa population served by public water supplies by 1982.

Recommended Action:

LRRA: HSA and local communities will determine methods of implementing floridation which identify barriers including sources of funds by 1980.

SRRA: Iowa State Department of Health, Dental Director, will identify priority of areas in need by 1978.

Objective 4: Genetic and birth defects counseling available statewide by 1979.

Recommended Action:

LRRA: Establish a genetic/birth defects registry and epidemiology program.

SRRA: Iowa State Department of Health and legislature identify funding of sources by 1979.

Iowa State Department of Health implement program by 1979.

SRRA: Iowa State Department of Health establish program administrative procedures by 1979.

Objective 5: Perinatal Care Standards for Level I, II and III hospitals by 1979.

Recommended Actions:

LRRA: State Perinatal Care Committee will establish methodology to evaluate acceptance and implementation of standards by 1980.

SRRA: Iowa State Department of Health will promulgate standards by 1979.

Objective 6: No more than 3,500 women entering care later than first trimester of pregnancy by 1982.

Recommended Actions:

LRRA: Iowa State Department of Health, Health Systems Agencies will establish casefinding system with State Department of Social Services, State Department of Public Instruction, Public Health Nurses and referral system with appropriate local public and private providers and organizations by 1978-79.

SRRA: Iowa State Department of Health will develop a concentrated public information and education campaign utilizing all media by 1978-79. This campaign to be jointly sponsored by state agencies and state organizations.

Objective 7: Medical, psychosocial and educational services available to adolescents including the preconceptional, prenatal, natal and postnatal services in five highest need areas by 1981.

LRRA: Health Systems Agencies will define roles of community agencies by 1979.

Health Systems Agencies with local agencies will establish a multiagency care system by 1980.

SRRA: Iowa State Department of Health will identify highest need areas by 1978.

Objective 8: Maternal and child health services accessible to eligible handicapped persons by 1985.

Recommended Action:

LRRA: Health Systems Agencies and Maternal and Child Health projects will develop plan for removing barriers which identify costs, sources of funds and schedule for completion by 1982.

SRRA: Maternal and Child Health projects will identify both physical and communication barriers by 1979.

GOAL 2: PUBLIC AND PRIVATE RESOURCES AT FEDERAL, STATE AND LOCAL LEVELS COORDINATED TO ASSURE 50 PERCENT OF THE MEDICALLY INDIGENT MATERNAL AND CHILD POPULATION ACCESS TO COMPREHENSIVE HEALTH SERVICES BY 1982.

Objective 1: Service areas defined which assure optimum use of available resources by 1980.

Objective 2: Information and casefinding services to assure optimum utilization of services by eligible population by 1982.

Recommended Action:

LRRA:
1) HSA staff and task forces will develop a plan of action identifying roles and responsibilities and procedures by 1979.
2) HSAs will identify resources available to priority areas by 1980.
3) HSAs with appropriate local representatives will develop and implement service system by 1982.

SRRA:
1) Iowa State Department of Health will identify highest need areas by 1979.
2) HSAs will evaluate current services.

GOAL 3: CHILD DEVELOPMENT AND FAMILY LIFE COURSES AVAILABLE TO 50 PERCENT OF STUDENTS, GRADES 7-12, IN IOWA'S PUBLIC AND PRIVATE SCHOOLS BY 1982.

Objective 1: Curriculum standards established by 1980 by State Department of Public Instruction.

Objective 2: HSAs and local school boards and administrators establish schedule for initiating courses by 1980.

LRRA: HSAs will identify program resources required.

SRRA: HSAs will assess current availability of courses by 1979.

GOAL 4: DATA SYSTEM ADEQUATE TO ESTABLISH MATERNAL AND CHILD HEALTH SERVICE NEEDS AND COSTS BY 1981.

Objective 1: Data on current services available by 1979.

Objective 2: Data on number of medically indigent receiving services by 1979.

Objective 3: Data on cost of services by 1981.

Recommended Action:

LRRA: SHPDA will establish agreements with appropriate state agencies and organization on methodology, format and time frames for collecting data by 1980.

SRRA: 1) SHPDA will evaluate and document current data available by 1978.

2) SHPDA and HSAs will document additional data needs by 1979.

COMMUNICABLE DISEASES

HEALTH STATUS

INTRODUCTION

A communicable disease is defined as "...a disease which may be transmitted directly or indirectly from one individual to another".* Communicable diseases result in thousands of deaths and cases of illness and disability each year. In 1974, for example, more than 30,000 people, or approximately one of every 6,900 individuals, in the United States died as a result of a communicable disease.**

Communicable diseases can be divided into three categories:

- o Diseases for which effective immunizations exist (such as diphtheria, measles, mumps, polio, rubella, tetanus, and whooping cough).
- o Diseases for which immunizations exist, but may not always be effective (such as influenza).
- o Diseases for which immunizations do not exist (such as chickenpox, the common cold, gonorrhea, pneumonia, streptococcal infections, gastrointestinal viral infections, and venereal disease.)

Reported cases of communicable diseases and the actual number of cases differ. The Iowa and Nebraska Departments of Health estimate that the reported number of cases of each communicable disease, (for which data is collected on a regular basis) is a fraction of the actual number of cases that occur. All the data on the following pages represent reported cases rather than actual.

Venereal disease, because of its current magnitude and severity is treated separately from other communicable diseases.

Indicators

Incidence rate of _____disease/10,000 persons

Death rates/10,000 persons

* Clarence Taber, Taber's Cyclopedic Medical Dictionary, 9th ed., Philadelphia: F. A. Davis Company, 1972.

** Daniel Zwick, Draft National Health Planning Guidelines: A Statement of Goals and Standards, Rockville, Maryland: DHEW, 1976

Vaccine Preventable Communicable Diseases

For persons under 18 years of age seven vaccine preventable communicable diseases are recommended to be immunized against. They are diphtheria, pertussis, tetanus, polio, rubeola, rubella, and mumps.

The trends in incidence rates of these seven vaccine preventable communicable diseases in Iowa over the past seven years have varied. Diphtheria, pertussis, tetanus and polio have all decreased in incidence since 1970, or remained at very low levels. No cases of polio or diphtheria were reported in 1977. Four cases of pertussis (.014 cases/10,000 persons) and one case of tetanus (.01 case/10,000 persons) were reported that year.

There were 4,306 reported cases of rubeola (14.9 cases/10,000 persons), 171 cases of rubella (.59 cases/10,000 persons) and 1,213 cases of mumps (or 4.2 cases/10,000 persons) in 1977. While the incidence rates of mumps and rubella declined between 1970 and 1977, the incidence of rubeola jumped 277%.

Diseases for which Only Temporary or No Immunizations Exist.

(Excluding venereal disease)

Influenza occurred in 1977 at a much higher incidence rate than any other reported communicable disease, (157 cases/10,000 persons). It was followed by reported cases of gastrointestinal viral infections with a rate of 86 cases/10,000 persons. Third in incidence in Iowa in 1977 were streptococcal bacterial infection at a reported rate of 43 cases/10,000 persons. Chickenpox occurred that year at a rate of 29 cases/10,000 persons.

In 1977 the incidence rate of tuberculosis was .34/10,000 persons, the incidence rate of pneumonia was 4.71/10,000 persons, and the incidence rate of hepatitis .83/10,000 population. Brucellosis and meningitis had rates of less than .1/10,000 persons.

Since 1970 penumonia and influenza combined have been the fifth leading cause of death in Iowa, accounting for about 4% of all deaths in 1975. Infants and that group of persons over 65 years of age had death rates higher than the state average of 37.1 deaths/10,000 persons.

LEADING REPORTED IMMUNIZABLE DISEASES IN IOWA

Per 10,000 Population

DISEASE	1970		1973		1974		1975		1976		1977	
		rate/ 10,000	No.	rate/ 10,000	No.	rate/ 10,000	No.	rate/ 10,000	No.	rate/ 10,000	No.	rate/ 10,000
Diphtheria	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000	0	0.000
Pertussis (whooping cough)	22	0.08	21	0.073	15	0.052	24	0.083	5	0.017	4	0.014
Tetanus	2	0.01	0	0.000	1	0.01	3	0.01	0	0.000	1	0.01
Poliomyelitis Paralytic/ Nonparalytical	0	0.0	0	0.000	0	0.000	0	0.000	0	0.000	0/1	0.01
Rubeola	1,144	4.05	284	0.994	134	0.467	717	2.49	109	0.377	4,306	14.90
Rubella	2,093	7.41	15	0.052	31	0.108	31	0.108	91	0.315	171	0.591
Mumps	3,546	12.55	1,985	6.96	1,513	5.27	1,513	5.27	1,634	5.65	1,213	4.20

Iowa State Department of Health
3/78

VENEREAL DISEASE

*For every year or since 1967 influenza, gastrointestinal disorders and streptococcal infections are the only reportable communicable diseases in Iowa which occurred more frequently than gonorrhea and syphilis.

The epidemic of venereal diseases which Iowa and the nation are in the midst of is hitting hardest among young people under 25 years of age. In Iowa, at least 70 percent of the reported cases of venereal disease occur in this young age group. Between 1975 and 1976 venereal disease decreased 10.3%, the first decrease in 12 years. In 1976 there were 6,515 cases of gonorrhea and 359 cases of syphilis reported with rates of 22.5 and 1.24 per 10,000 persons respectively. Teenagers accounted for one-third of all gonorrhea cases in the state in 1976.

*Most of the narrative in this Health Status Section is taken from Venereal Diseases a Resource Guide, Iowa State Department of Health and Public Instruction, 1974

Of all gonorrhea cases reported that year, 45% was reported by private physicians. Gonorrhea treatment patients were 80% white, and 51% male. Early syphilis cases reported increased from 32 to 45 between calendar years 1975 and 1976. Syphilis is generally only infectious for the first few months after onset.

For unaccounted reasons, between 1975 and 1976 reported venereal disease decreased 10.3%, the first decrease in 12 years.

Gonorrhea is the most common reported communicable disease in the country. If as many cases of infectious hepatitis or rubella as are cases of gonorrhea were reported, the people of Iowa would be aware of the problem and alarmed.

Each year of at least the past five years, the number of reported cases of venereal diseases increased by about 10 percent, and the outcry has been inaudible.

How can an epidemic of any serious disease persist when effective treatment is available? Obviously, the treatment has too often not reached those who are infected. One reason for this is that since these venereal diseases are transmitted only by sexual contact, those who are infected or think they may be, are reluctant to seek assistance and discuss their concerns openly. Also for many young persons who have sexual contacts with several persons, taking precautions means facing up to a behavior which society generally looks down upon and which may be personally confusing. Therefore, admitting that "I" could get venereal disease is something that is easily denied. Another factor is widespread lack of information about symptoms, transmission and treatment. Without the facts about venereal disease, an infected individual may not seek immediate medical attention.

VENEREAL DISEASE INCIDENCE RATES PER 10,000 POPULATION

I O W A

DISEASE	1972		1973		1974		1975		1976	
	No. Cases	Cases/ 10,000	No. Cases	Cases/ 10,000	No. Cases	Cases/ 10,000	No. Cases	Cases/ 10,000	No. Cases	Cases/ 10,000
Gonorrhea	6,186	21.7	*5.144	22.67	6,236	21.7	7,261	25.2	6,515	22.5
Syphilis	482	1.69	417	1.45	372	1.30	331	1.15	359	1.24

Iowa State Department of Health

*Beginning in April of 1973, the gonorrhea statistics do not include cases preventively treated; that is, those persons who were treated but were not laboratory positive are no longer counted as cases.

If an individual with gonorrhea is not diagnosed and treated, complications may begin. Sterility may result in both men and women. The most common complication in the female is pelvic inflammatory disease (P.I.D.). P.I.D. is any inflammation of the tissues of the reproductive organs such as the Fallopian tubes or the uterus.

Because gonorrhea first attacks the urinary tract in the male, his first complications are usually associated with the urethra and the bladder. The scarring that results from the gonorrhea germs attacking the urethra may leave this tube partially or completely closed by scar tissue. Such a stricture may make it difficult or impossible for the male to urinate.

There are other possible complications besides. Occasionally the organism of gonorrhea is carried by the blood stream from the reproductive parts and organs to other areas of the body. One common place for the organism

to settle is in the joints, causing a very painful form of arthritis to occur. Less commonly, the organism of gonorrhea may cause meningitis or heart disease. None of the complications of gonorrhea need occur if the infected individual consults a doctor for diagnosis and treatment. Anyone suspecting gonorrhea should ask a doctor to do a laboratory test for gonorrhea. Gonorrhea can be cured, and the sooner it is treated, the better.

One other complication of gonorrhea which should be mentioned is the infection of the eye. If a pregnant woman has gonorrhea at the time she delivers her child, the disease organisms may infect the child's eyes as it passes through the mother's birth canal. Blindness could result. Because of this danger, most states, including Iowa, require that preventive drops of silver nitrate medication or an antibotic be placed in the eyes of every newborn child. Also, an adult could infect his or her own eyes by hand-to-eye transmission of gonorrhea germs.

Syphilis is a <u>systemic</u> disease, which means that the causative organisms get into the circulatory system--both the blood stream and the lymphatic (disease defense) system. Syphilis has been called "the great imitator" since it may look like so many other diseases to those infected and to doctors.

The serious complications of syphilis include its transmittal by women to their unborn children, and when the disease has been present for long periods of time, 5-15 or more years, lesions in heart and blood vessels, nerve damage, insanity, blindness, crippling and paralyses. One-third of all persons with syphilis which has not been treated develop these late destructive lesions.

HEALTH STATUS GOALS

IMMUNIZABLE COMMUNICABLE DISEASES

GOAL 1: NEAR ERADICATION OF THE SEVEN COMMUNICABLE DISEASES RECOMMENDED FOR IMMUNIZATION IN PERSONS LESS THAN 18 IN ORDER TO LESSEN COSTLY AND PREVENTABLE MORBIDITY.

Objective 1: By 1982 limit the annual incidence rate of these seven immunizable communicable diseases to no more than the following: polio 0 cases/10,000 population
diphtheria and tetanus, no more than .01 cases/10,000 population (one case each per year)
rubeola and rubella, no more than .34 cases/10,000 population (100 cases each per year)
mumps, no more than 1.67 cases/10,000 population (500 cases per year)
pertussis, no more than .04 cases/10,000 population (10 cases per year)
This objective can be attained if 90% of the Iowa population is immunized for each of these diseases. For mumps the current rate is 4.2 per 10,000 population. For rubeola that rate is 14.9/10,000 population. A reduction in the incidence rate of these three diseases is to be attained. The levels set for polio, pertussis, tetanus, and diphtheria are essentially maintenance objectives.

NONIMMUNIZABLE COMMUNICABLE DISEASES (excluding VD) AND TEMPORARILY IMMUNIZABLE COMMUNICABLE DISEASES

GOAL 2: REDUCED INCIDENCE OF MORTALITY FROM INFLUENZA AND INFLUENZA RELATED PNEUMONIA AMONG THE ELDERLY, INFANTS AND CHRONICALLY ILL SUCH THAT OPTIMAL HEALTH AND LONGEVITY IS MAINTAINED AMONG THESE POPULATIONS.

Objective 1: By 1982, no more than 3 deaths/10,000 population from influenza. (90 deaths).

In 1974 the rate was 3.8/10,000 persons and 108 deaths occurred.

This objective is thought to be attainable if more of the population at risk - mainly elderly are immunized against particularly virulent strains of influenza.

It is estimated there is currenlty 400,000 at risk individuals who could benefit from influenza vaccine.

Objective 2: By 1982 reduced incidence of reported cases of influenza from 175 cases/10,000 persons to 140 cases/10,000 persons (42,054 cases in the population).

See explanation above. This objective represents a reduction of 11,803 cases from the 53,857 cases reported in 1977.

VENEREAL DISEASE

GOAL 3: THE PRESENT RATE OF CASES OF VENEREAL DISEASE LESSENED IN ORDER TO KEEP THE DAMAGE TO HEALTH INCLUDING BLINDNESS, STERILITY, SYSTEMIC AND LOCAL INFECTIONS AT A MINIMUM.

During 1976 there were 6,515 reported cases of gonorrhea or approximately 22.55 cases per 10,000 population and 292 reported cases of syphilis or approximately 1.24 cases per 10,000 population, and 45 cases of infectious syphilis reported. It must be emphasized that these reported cases represent only a fraction of the actual number of cases which occurred in a given year. Even these reported cases indicate that venereal disease is epidemic in proportion.

Objective 1: By 1982, no more than 6,600 cases (22.3 per 10,000 population) of gonorrhea per year. (In 1976, there were 6,515 reported cases of gonorrhea).

Currently no vaccines for gonorrhea are available for general distribution to the population. Biomedical research focusing on the development of a vaccine for one strain of gonorrhea, however, is underway at the present time. Whether or not a vaccine for a particular strain of gonorrhea becomes available in the future, keeping the number of cases of gonorrhea to no more than 6,600 yearly by 1982 will require continued efforts. Continued research into vaccine development will also be required. Emphasis should be placed on the value of funding existing programs at levels which will allow these programs to employ the number of personnel necessary to improve tracing, case contact, and follow-up.

If the communicable and infectious disease reporting system should significantly be improved then the number of cases of gonorrhea reported could rise above the 6,500 plus reported in 1976. The attainment of the objective must be weighed with the attainment of objectives in the service section of this plan which will result in a higher incidence of cases reported.

Objective 2: By 1982, no more than 45 cases of infectious syphilis reported per year in the population. (In 1976, 45 cases of infectious syphilis were reported.)

It is not expected that the incidence rate for syphilis will change dramatically in the next several years. There are several reasons for this. One, the number of persons in the age group in which syphilis is most prevalent will remain relatively constant over the next several years. Second, the number of reported cases of syphilis in all other age groups also is expected to remain constant. This will hold true unless there are significant breakthroughs in case-finding capabilities and reporting mechanisms or medical science develops an effective vaccine to prevent syphilis.

SERVICES

INDICATORS

Services by kind, by setting by age of population served, by location.

Budgets by service

Desired System

In a desired health system prevention and detection, maintenance and rehabilitation services would be coordinated. A network of well-baby, well-child, and well-elderly programs would exist in the state. They would provide for immunizations against influenza and childhood diseases. They would supplement the private sector in meeting the immunization goals set in the health status section of the communicable disease component. The network would provide services without regard for geographic location or ability to pay.

Programs of screening for diseases in high risk populations, such as low income persons, potential diabetics or heart patients, preschool children and the elderly, would be readily available in quantity and quality to meet need and would be coordinated with as well as immunization of at risk populations.

In a desired system, services would be available in a variety of settings to facilitate access. The public would be aware of the availability of such services and would understand their value. Screening services provided in an ambulatory or clinic setting would ensure a comprehensive referral program for continuity of service.

Education about communicable diseases, most especially venereal disease help bring those who are infected to treatment sooner, encourage immunization of immunizable diseases and thereby limit the opportunity for further spread of the disease, open discussion about gonorrhea and syphilis would encourage young people to seek assistance or advice when they

suspect a problem. A person who knows about the symptoms of venereal disease, where to go for help, and the fact that treatment is confidential, would be most likely to seek immediate medical attention when infected than one who did not. However, if venereal disease and other health education or information emphasizes guilt surrounding these diseases, the end result may work against disease eradication.

Communicable disease control of veterinary and infectious diseases would be addressed as it pertains to sanitation needs within the state. In addition the need for sanitation manpower would be identified. Licensed and certified physicians and nurses would be available to facilitate the needs of both rural and urban populations. Public health programs also would be efficiently utilized to meet the needs of high risk groups and the total population.

Adequate funding would be appropriated for programs working toward an improved overall health status for area residents. Persons would want these services for themselves and their families and make positive efforts to ensure that these services are acquired.

Education, personal preventive measures, early treatment and adequate funding are all part of a desired service system for communicable disease.

Present System

Costs for all Communicable Disease Services

For individuals who can afford to pay, and for individuals covered by Medicaid, immunizations and venereal disease treatment at a private physician's office present no financial problems. But for individuals who fall into the "near poor" category, (100 to 125% of poverty level) about 5.0% of all residents in Iowa, the cost of vaccinations in private physicians' offices may be prohibitive.

Throughout the State children in low income families tend not to

receive the recommended immunizations before school age. Thus, financial accessibility becomes a barrier to service unless public clinics or school immunization services and reimbursement for venereal disease treatment and screening are available and accessible. Teenagers without money on hand postpone seeing physicians for venereal disease treatment fearing bills will be sent to their homes. Since the enactment of the State mandatory immunization last year, ongoing free immunization clinics are being held throughout the state.

The cost of a complete regimen of vaccinations against the seven immunizable communicable diseases (diphtheria, measles, mumps, polio, rubella, tetanus and whooping cough) for one individual is $3.66*, although vaccinations are available per local public health clinics.

Influenza vaccine is available at $1.00 per injection.** In 1975 300,000 dosages of influenza vaccine were released by the Iowa Department of Health. The cost of early venereal disease, gonorrhea and syphilis treatment varies but is probably around $4.00; preferred treatment drug: aqueous procaine penicillin G. (A.P.P.G.) with one gram of probencid.

In fiscal year 1978 the Division of Disease Prevention is spending $59,000 in T.B. surveillance, control and prevention, $48,000 in the area of veterinary public health, $132,000 for its immunization program and $164,000 in administration and epidemiology, in addition to the monies spent on venereal disease program.

Costs of other programs in the state are not available at the time this section of the State Health Plan was written.

The Iowa State Department of Health Venereal Disease Control Section spends each year about $182,000 in federal, and $144,000 in state monies on venereal disease control. But these monies allow for little more than keeping the number of cases from expanding.

* Prices may vary based on the amount of vaccine purchased.
**Vaccine may be less expensive if purchased in multi-unit dosages.

AVAILABILITY AND ACCESSIBILITY

Venereal Disease Control

The Iowa State Department of Health - Venereal Disease Control Section is the central control and coordination agency in the state for all venereal disease control efforts and programs. There a registry is maintained which contains information on each venereal disease case reported. All positive laboratory reports when received are checked against the registry of previously reported cases. If positive cases are not duplicative, the physician submitting the specimen is called. If clients have infectious venereal disease, permission is obtained from the doctor to interview the client so that other persons with whom that client has had sexual contact can be located and referred to medical attention as soon as possible. Preventive treatment is recommended to the doctor for those patients who have not had time to develop symptoms. This, thus prevent a case from developing and breaks the chain of infection.

The Venereal Disease Control Section also fulfills requests for venereal disease information received from schools. Presentations are requested by and given to schools, civic groups, and other organizations. Staff from the Venereal Disease Section visits physicians and laboratories to encourage their prompt and complete reporting of cases and positive test results, respectively, and to provide literature and information to them. If funds permit drugs used by physicians for the treatment of gonorrhea and syphilis are replaced to the physician, upon his request when reporting the case.

To identify persons infected with gonorrhea it is necessary that the Venereal Disease Control Section maintain and supervise field staff. This staff of eight public health representatives engage in a wide variety of activities that help to identify morbidity. The public

health representatives are assigned to specific geographical locations. The primary responsibilities of the epidemiologic staff are as follows:

1. To interview all reported cases of gonorrhea in males and females for their sexual contacts that had occurred during a 30 day period prior to the onset of their disease.
2. To refer these contacts for medical evaluation.
3. To arrange for preventive treatment when indicated.
4. To visit all private physicians in priority specialities.
5. To visit all laboratories that do testing for venereal disease.

Immunization

Immunization is one of the most successful preventive medical procedures ever devised, yet 30 percent of the 1976 first time school enrollees in this health service area (as indicated by their parents) were not fully immunized against diphtheria, measles (rubeola), mumps, polio, rubella (German measles), tetanus, and whooping cough (pertussis). These are all diseases that could be close to eradication if more individuals would seek to be immunized. Yet this has not been done.

Throughout the state health service area, immunizations are generally available in various locales and a variety of settings. Presently, immunizations against the seven childhood diseases and influenza are available in nearly all primary care physician offices. They are also available in some public health nursing offices on a routinely scheduled clinic basis, and in the public school system in certain areas if a specific communicable disease threatens to become endemic. Maternal and Child Health Centers also immunize infants and young children as part of their focus on preventive medicine. In 1976 there were five Maternal and Child Health Centers and ten Child Health

Centers (formerly Well-Child Conferences) in this State.

These centers meet as needed in donated space, and participants are instructed in maternal and child health care, nutrition, and preventive medicine.

Because of the immunization law passed in 1976 by the State Legislature close to 97% of all school age children in public schools are up-to-date in their immunization schedules against rubella, rubeola, polio, diphtheria, tetanus, mumps and pertussis. To maintain this level continued monitoring and availability of vaccines are necessary.

The group of children less than school age have not reached the desired 90% immunizaiton level. However the level of immunizations found in this group is high. In a survey conducted by the State Health Department in 1977, 78.1% of all two-year-olds, 73.1% of all kindergartners, 54.7% of all day care and 56.8% of all children in head start were fully immunized at levels recommended for their age groups.

Consumer knowledge is one factor that is limiting utilization of immunization services. The acceptability of the existing immunization system in Iowa is complicated by the fact that some individuals are uncertain of the value of immunization, especially if the rate of occurrence for immunizable diseases is low. This lack of knowledge about the appropriateness of immunizations impacts directly on client acceptability of the program. Many individuals are also uncertain of when and where to go to receive vaccinations.

In this State , as in many areas of the country, there are and will continue to be individuals, who, for reasons of religious conviction or medical contraindication, will decline protection from the seven immunizable communicable diseases via the preventive medical care technique of vaccine immunization. For these individuals, immunization will always remain unacceptable.

In the state additionally a rubella testing program for pregnant women is carried out by the State Health Department and State Hygienic Laboratory. Vaccinations are provided postpartum to those women who are susceptible.

TEMPORARILY IMMUNIZABLE AND NONIMMUNIZABLE COMMUNICABLE DISEASES

The State Health Department does not support mass immunizations for the total population at risk of becoming seriously ill from prevalent viral influenza strains on a regular basis, as the cost/

benefit ratio does not justify such a program at this time. However as for the 7 immunizable diseases, influenza vaccines are available in doctors' offices, in clinics held by local public health nurses each year, and additionally in many places of employment. Local public health immunization clinics are usually available at only one site in the county, and consequently available only to individuals with access to some form of transportaiton. (In Iowa about 12 percent of the households do not have an automobile available.)

Communicable diseases which are not immunizable - zoonotic and other nonimmunizable diseases are monitored and controlled through the State Health Department. Zoonoses such as rabies and encephalitis in animals, and human cases of salmonellosis and trichinosis, and human and animal cases of brucellosis are reported to the State Health Department.

Epidemiologic investigations are conducted where the surveillance procedures indicate this is necessary. The extent of the investigation varies greatly depending upon several factors such as the

disease itself, reservoir, animal species, and extent of the problem.

Investigations may be limited to data collection by telephone or correspondence on an individual case or to full scale epidemiological investigations lasting years in some instances.

Also involved in this surveillance and control of zoonotic diseases are the Iowa Department of Agriculture, Iowa State University College of Veterinary Medicine, the State Hygienic Laboratory, the Iowa Veterinary Diagnostic Laboratory, local health departments, local and state Veterinary associations and individual providers.

Educational activities are undertaken by these agencies to make individual citizens aware of precautions that will prevent zoonotic diseases, such as having their pets vaccinated for rabies and making sure the pork they eat is cooked well.

Activities in the state to control zoonotic diseases have been fairly successful, rabies, brucellosis, trichinosis and encephalitis and salmonellosis have low incidence rates in the state.

Other communicable diseases such as hepatitis, meningitis, streptococcal infections, chicken pox,tuberculosis, and gastrointestinal viral infections are also monitored and controlled through the State Health Department's Section of Disease Prevention.

This Division provides technical assistance and educates doctors and public health personnel regarding communicable disease outbreaks.

Weekly morbidity reports and three or four times a month disease bulletins are sent to local providers which inform them of significant trends and patterns in communicable immunizable and nonimmunizable diseases.

Food related outbreaks of infectious diseases are also reported to and investigated by the State Health and County Health Departments.

SERVICE GOALS AND OBJECTIVES

VENEREAL DISEASE

GOAL: VENEREAL DISEASE CONTROL INCLUDING PREVENTION AND TREATMENT SERVICES AVAILABLE IN SUFFICIENT QUANTITIES TO MAINTAIN OR LESSEN THE PRESENT RATES OF SYPHILIS AND GONORRHEA

Availability

Objective 1: Increase venereal disease awareness in all segments of Iowa society having venereal disease education with special concentration on all junior and senior high public schools as a part of a comprehensive school health education program by 1982.

An aware public is not as likely to contract venereal disease, or, if they should become infected, not as likely to go without proper medical attention. The principal thrust of these activities takes the mass approach through newspapers, radio and television. Local task forces and speakers bureaus, both consisting of interested volunteers, are encouraged and supported by the State and local health departments.

Since health education, including venereal disease, is sometimes available in schools, workshops for teachers on the subject are presented by State Health Department staff. A resource guide and a pamphlet have been developed and are used for this and other activities. Both are provided to the public without charge per the State Health Department. Appropriate films are also available at no fee.

The public health and school nurse currently provide in many counties information to teachers and students about venereal disease. Although, in the case of the public health nurse,

preventive education is often low priority because of the scarcity of personnel.

Efforts will be made to continue to provide private physicians with the latest medical information as well as encourage reporting of morbidity.

The State Health Department will carry out the following activities this year to help implement this objective:

Work with Iowa school personnel (i.e., Iowa Association of School Boards, Iowa Department of Public Instruction) to implement venereal disease instruction in the schools.

Conduct mass awareness campaigns through the 20 television and 104 radio stations in Iowa and neighboring cities in other states to provide for the education of the post school age citizens.

Provide 2,200 private physicians with any new information pertinent to diagnosis or treatment.

Provide material and technical support as requested to the five speaker bureaus in Iowa.

The evaluation of this objective can in part be measured by the afore mentioned activities. To accomplish this objective, as it applies to school health education, additional state monies will be required.

LRRA: By 1980 a statewide task force to prepare and adopt a plan of action and position paper on school health education will be convened. This work of the task force will be the basis for gaining needed support for comprehensive school health education in the state. The task force will have a representative of the State Health Department Venereal Disease Section. The plan of

action will identify costs, personnel requirements and implementation strategy.

Some money will be required to cover the paper and travel expenses of this task force.

Actors in this statewide task force include:

Public/school health nurses

Department of Public Instruction

Area Education Agencies

Iowa Association of School Boards

Iowa Association for Health, Physical Education, and Recreation

State Health Department

State Department of Substance Abuse

3 Health Systems Agencies in Iowa

Quality

Objective 2: Data capabilities that will provide the necessary statistical information to evaluate the gonorrhea screening program in the State Health Department maintained and developed by 1982.

Since the inception of the mass screening program to detect gonorrhea in asymptomatic females, it has been obvious that a method was needed to analyze and interpret the information which the program generated in order to manage and refine the program and make it more efficient. Due to the volume and to the complexity of the information, the system which was chosen is that of use of Automated Data Processing. This system informs the State Health Department as to which providers are most productive, what population characteristics make up the high risk groups (by age, sex, geographical location) and provide a degree of inventory control.

Because of the speed and efficiency of this system, less man hours are necessary for processing data. This frees clerical and supervisory staff for concentration on other administrative and epidemiologic activities.

This object is already being implemented. No additional state monies will be required.

SRRA: The Venereal Disease Control Section of the State Health Department will obtain an annual readout by individual physicians and processing lab showing the number of cultures done and the percentage of positive tests.

Cost

Objective 3: Reimbursement for doctors treating those persons exposed to venereal disease and medically indigent should be available by 1980.

Previous to 1977 doctors who treated or tested for syphilis and gonorrhea in persons unable to pay for such treatment negotiated a fee with the State Health Department (maximum $10 for their office call). The Department up until that time also provided to physicians drugs and lab tests free of charge. Lab tests, and to a limited extent drugs are still provided through the Department free of charge. But, because of cuts in state appropriations reimbursement for office calls is no longer provided. This reimbursement not only allowed for quick treatment of the indigent (usually teenager) who otherwise might postpone treatment until enough money was saved but also encouraged doctors to report cases as they had to contact the Department to receive reimbursement.

Previously the Health Department's budget was about $11,000 for this service. $15,000 is now thought to be the amount that

would be required to carry this function out in the future due to inflation and the expanded population at risk.

Federal contract with the State Health Department prohibits federal monies being spent for medications or direct treatment.

LRRA: By 1980 the State Health Department will seek $15,000 in funding from the State Legislature for these VD treatment fees.

Objective 4: Medications in kind should be available for all physicians treating syphilis and gonorrhea by 1980.

Currently because of reduced state appropriations and federal requirements disallowing federal reimbursement for medications, physicians are not given in kind medications for drugs used to treat venereal disease. Sometimes no drugs are available to "reimburse" the physicians. Cheaper drugs now affordable are not always the most effective.

To implement this objective $35,000 more in state appropriations is needed.

LRRA: By 1980 the State Health Department will seek $35-30,000 in funding from the State Legislature for drugs in-kind for VD treatment.

Availability

Objective 5: By 1980 95% of exposed gonorrhea contacts given preventive treatment.

The number of persons interviewed with cases of gonorrhea by public health representatives and the number of subsequently named contacts given by those contacts interviewed was 11,292 in 1976; 4,604 cases, and 6,688 exposed contacts. Of those 6,688 persons exposed 3,020 were eligible for preventive treatment and 95% of that 3,020 were treated.

Eligible for preventive treatment applies to contacts who were found and had not yet developed the disease. Contacts found and testing positive were given curative treatment. 74,516 specimens were processed in 1976. Of that number 3.3% or 2,459 tested positive. Screening is accomplished through an agreement with the State Hygienic Laboratory. A bacteriologic culture system known as Jembec is provided to physicians for use in detecting gonorrhea infection in their patients. Specimens inoculated onto the Jembec culture plates can be mailed since the system includes a tablet which generates a carbon dioxide which is necessary for the survival of the organism. Epidemiology consists of interviewing infected patients for their sexual contacts during the period of time when they might have been infected until the time they were treated. The patient received the infection and had the opportunity to pass it on to others during this time span. The sexual partners named by the infected person are confidentially located and referred for medical evaluation.

This objective can be evaluated through the following activities:

(a) To maintain gonorrhea screening of females age 30 and under at a level of 70,000 per year.

(b) To culture 35,000 females during the period July, 1978 through December, 1978.

(c) To culture 35,000 females during the period January, 1979 through June, 1979.

(d) To correlate smear and culture results on all males during one clinic session per month for quality control purposes.

(e) To finalize the procedure for the reporting by hospital emergency rooms and follow-up of females with PID who are infected by gonorrhea.

(f) To ensure that 65% of male and female clinic patients return for test-of-cure. All women being tested at both cervical and rectal sites.

(g) To process test-of-cure failures and 10% of all positive cultures for penicillinase-producing Neisseria Gonorrhea organisms.

(h) Assure that 60% of reported gonorrhea cases are interviewed within 10 days of assignment.

(k) Daily review of case control records to assure that 95% of all eligible examined contacts are given preventive treatment.

(j) Weekly review of delinquent case control records and consultation with case worker to assure that 85% of the contacts from reported cases are located and referred for medical evaluation.

No additional monies will be needed to accomplish this objective.

LRRA: By 1980 the State Health Department will increase the percentage of all contacts in the State interviewed and continue to give preventive treatment to 95% of those contacts interviewed.

Cost estimates are not available but if increased costs are involved federal monies will cover them.

IMMUNIZABLE COMMUNICABLE DISEASES

GOAL 1: HERD IMMUNIZATION LEVELS IN THE POPULATION AGAINST DIPHTHERIA, RUBELLA, RUBEOLA, POLIO, TETANUS, MUMPS AND PERTUSSIS (WHOOPING COUGH) IN ORDER TO PREVENT THE SICKNESSES AND DISABILITIES RESULTING FROM INDIVIDUALS CONTACTING THESE DISEASES.

Immunization is one of the most successful medical procedures ever devised, yet 27 percent of the 1976 first time school enrollees in

Iowa (as indicated by their parents) were not fully immunized against diphtheria, measles, mumps, polio, rubella, tetanus, and whooping cough (pertussis). These are all diseases that could be eradicated if individuals were immunized. Yet eradication has not been achieved.

Objective: By 1982 a 90% of the population immunized against the seven recommended immunizable communicable diseases.

LRRA: Iowa's immunization law will continue to be enforced.

LRRA: The parents of children in day care centers, head start programs, and preschools whose children are not immunized will be encouraged to have their youngsters immunized.

TEMPORARY OR NON-IMMUNIZABLE COMMUNICABLE DISEASES

GOAL: AN INCREASED NUMBER OF CHRONICALLY ILL AND OTHER HIGH RISK RESIDENTS IMMUNIZED AGAINST INFLUENZA AND INFLUENZA-LIKE DISEASES IN ORDER TO PREVENT UNNECESSARY MORBIDITY AMONG THESE POPULATIONS.

By raising the number of chronically ill and high risk individuals who are immunized against the more prevalent virulent drift of influenza virus, the number of preventable deaths among this target population can be reduced. Individuals in this group generally have lower levels of natural resistance to disease than do individuals in other segments of the general population. Because of their lower levels of resistance, these individuals more easily succumb to a disease such as influenza and its complications. Higher levels of immunization of individuals in this group would strengthen their resistance to disease and afford each recipient of the immunizations an improved opportunity to avoid unnecessary illness and possible death.

Objective: By 1982 70% of chronically ill or high risk individuals (approximately 280,000 residents) immunized each year against the more prevalent virulent drift of influenza virus with the vaccine recommended for use during that year.

Currently the State Health Department receives each year enough doses of influenza vaccine to vaccinate about 20% of estimated 400,000 persons in the high risk population. Secretary of HEW has set a priority in vaccinating the at risk population against influenza. By vaccinating 280,000 individuals each year by 1982 it is hoped that the chronically ill and high risk segments of the population will be protected against the expected prevalent influenza virus, and consequently experience fewer preventable deaths and severe illness due to influenza. This objective will help to achieve the goal by raising the level of immunized individuals in the chronically ill and high risk categories. Higher levels of immunization would strengthen natural resistance to influenza and afford each recipient of the immunizations an improved opportunity to avoid illness or death.

Insufficient funds are available at this time to increase the number of vaccine to 400,000 - the approximate number of people at risk.

LRRA: The State Health Department will distribute the necessary influenza vaccines free of charge. Vaccines will be given by local clinics and physicians. Costs of the additional vaccines will be shouldered by federal government.

HANDICAPPING AND DISABLING CONDITIONS

Disabilities are limitations of a person's activities.[1] Disabilities may be temporary or long-term. They may be induced by acute or chronic illnesses. In this section we will discuss only long-term (chronic) disabilities caused by chronic conditions[2] or impairments.[3]

Long-term disabilities or activity limitations may be severe (resulting in an inability to carry out major activities), major (resulting in some amount or kind of major activities limitation), or mild (resulting in limitation but not with regard to major activities). Major activities are school, housework and employment or business activities.

All data given here is representative of the noninstitutionalized populations.

All data presented here on prevalence and severity of chronic disabilities will be prioritized based on:

1) Prevalence of disabilities and conditions (the number of cases occurring in a given time period)
2) Severity (morbidity and mortality resulting from chronic conditions) and duration (length of time disability lasts)
3) National priorities and HSA Health Systems Plans

PREVALENCE OF CHRONIC CONDITIONS[4]

Circulatory and heart conditions accounted for more of the 10 most prevalent chronic conditions in the nation from 1969 through 1972 than any other major class of chronic conditions. Three of the 10 most prevalent chronic conditions under circulatory conditions were: hemorrhoids with 47.4, hypertension with 60.1 and heart disease with 50.0 cases per 1,000 persons.

[1] Limitations of Activity Due to Chronic Conditions, US-1977, US DHEW, pp 57-60

[2] Chronic conditions are conditions 1) lasting more than three months, 2) or which are among a list of conditions considered chronic regardless of date of onset.

[3] Impairments are chronic or permanent defects, permanent in nature, resulting from disease, injury, or congenital malformations.

[4] This analysis is based on national data. The source of this information is Prevalence of Chronic Conditions of the Genitourinary, Nervous, Endocrinal, Metabolic, and Blood Forming Systems and other Selected Chronic Conditions - 1973, Series No. 109, DHEW publication No. HRA, 77-1536, 1977.

More than 23 million Americans have hypertension or high blood pressure - that's about one out of seven white adults and one out of four black adults. By properly treating and lowering blood pressure, the chance of stroke, heart disease, and kidney failure can be reduced.

The National High Blood Pressure Education Program of the National Institute of Health estimates that of all hypertensives, 40% are not aware that they have high blood pressure, 20% are aware but not on therapy, 20% are on inadequate therapy, and 20% are on adequate control.

The general class of respiratory conditions with a rate of 157.2 per 1,000 persons came close in prevalence to circulatory diseases among the 10 most prevalent chronic conditions. Nationally, chronic sinusitis and hay fever were the two respiratory diseases among the 10 most prevalent chronic diseases accounting for the 157.2 cases per 1,000 persons.

Two musculoskeletal conditions, arthritis with 92.9 and impairments of the back and spine with 39.9 cases per 1,000 persons were among the 10 most prevalent conditions and resulted in musculoskeletal being third among the major chronic conditions represented by the ten leading chronic conditions between 1969 and 1972.

Hearing impairments with a rate of 71.9 were the fourth most prevalent major grouping of chronic conditions found among the 10 most prevalent chronic conditions. Visual impairments was the fifth major group with a prevalence rate of 47.4 per 1,000 persons. (See appendix, Table 1 for more detail)

PREVALENCE OF CHRONIC DISABILITIES[1]

Musculoskeletal[2]

During 1975 in the U.S. and in a 12 state region including Iowa 39.8% of all disabilities were caused by arthritis, rheumatism, other musculoskeletal conditions and paralysis. This is a higher percentage than any other major class disability.

In our region arthritis accounted for 20.6% and musculoskeletal impairments and paralysis for 19.2% of all disabilities from chronic conditions.

Vocational Rehabilitation Services of Iowa's State Department of Public Instruction (DPI) in 1969 predicted the number of disabled persons Iowa would have in 1975. Aggregating conditions and impairments somewhat differently than the National Health Interview Survey,[3] it predicted that 92,950 Iowans would have orthopedic deformities, impairments, absences or amputations; and that another 34,230 would have other related conditions including paralysis. Accounting for a total of 32% of all chronically disabled Iowans, musculoskeletal conditions were estimated to be the leading cause of disability in the State. DPI projected that of that 32% (127,180) disabled 51% would be 65 and over and 73% would be 45 and over.

[1]For unknown reasons the National Health Interview Survey appears to have missed the mentally retarded in their count of causes of prevalent chronic disability in the region and in the nation. DPI estimated 66,910 were so disabled in 1975 in Iowa, 39% of whom were under 17 years of age. This makes mental retardation the third leading cause of disability in noninstitutionalized persons in Iowa. Services for the health status of the mentally retarded are addressed beginning on page

[2]The source for this national and regional prevalence data was Limitations of Activity Due to Chronic Conditions, U.S. 1974, Series 10, Number 111, US DHEW. The 12 state region mentioned above includes, Michigan, Ohio, Indiana, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Kansas, Nebraska.

[3] The DPI Iowa estimates are based upon 1969 National Health Interview Survey data. The DPI publication is Vocational Rehabilitation, Part 2, A Plan For All Iowa, Harbridge House, Incorporated, 1968.

Circulatory

Chronic cirulatory and heart conditions were the second leading cause of disability in 1975 in Iowa, behind orthopedic conditions. They were second also in the region and the nation causing 30% of all disabilities regionally. Chronic cirulation conditions caused 18% of all disabilities in Iowa according to the DPI study. Fifty-eight percent of the 18% or 42,990 persons were 65 and older. Eighty-one percent were 45 and over.

Respiratory

Chronic respiratory conditions, including asthma, bronchitis, emphysema, hay fever and others were the third leading cause of chronic disability regionally and nationally in 1975. They determined 10.9% of all chronic disabilities regionally.

DPI estimates ranked chronic respiratory conditions as the eighth leading cause of disability, occasioning 3% of all disabilities in Iowa. Iowans so disabled were estimated to number 12,920.

Three percent of the 7.5% discrepancy in percentages between Iowa and the region is due to the fact that DPI categorizes hay fever in a class with allergies, endocrinal (including diabetes) and metabolic disorders, which rank as the fourth most prevalent cause of disabilities in Iowa. Regional data associated hay fever with respiratory conditions.

DPI places 37% of respiratory caused disability among persons 65 and over, and 70% among persons 45 and over.

Digestive

The category of chronic diseases of the digestive system was ranked fourth as a cause of chronic disability in the region, accounting for 6.3% of all disabilities in 1975. They were fifth in 1975 in Iowa

according to DPI, accounting for 23,240 or 6% of all Iowans with disabilities. Seventy-nine percent or 18,260 of those Iowans were 45 and older, and 47% were 65 and over. The discrepancy in ranking is due to the variations in categorization in the regional or state data.

Visual

Visual impairments were the fifth most prevalent chronic disability in the region in 1975 with 5.5% of all disabilities. DPI ranked them seventh in prevalence affecting 3-4% of all disabilities in Iowa. Over 75% of those visually disabled in Iowa were 65 and over, 86% were 45 and over. The Iowa Commission for the Blind estimates that a little over 6,000 Iowans are blind and that about 600 Iowans become blind each year. Diabetes, a disease among the fourth ranked group of conditions causing disability statewide, probably causes 18% of all blindness.

Endocrinal

Diabetes in DPI estimates is included along with allergies, nutritional and other endocrinal disorders in a category ranked as the fourth cause of disability in Iowa as stated earlier. This category accounted for about 5% of all disabilities in Iowa. Sixty-one percent or 13,760 of that 5% were 45 and older. The percentage in Iowa of diabetes caused disabilities are comparable to Regional percentages for such. However, diabetes of itself ranks sixth among causes of disabilities regionally.

Mental/Nervous

Mental and nervous conditions were ranked as the seventh most precipitating cause of disability in the region. DPI ranked mental, psychoneurotic and personality disorders as the sixth and other specific disorders of the nervous system as the 12th leading cause of disabilities in Iowa. Together these latter two categories accounted for

about seven percent or 26,340 disabilities in Iowa in 1976. Of those disabilities 60% were among persons 45 and over, 32% among persons 65 and older.

Neoplasms

Neoplasms, malignant and benign were the eighth cause of disability in the region. DPI ranked them 11th estimating they were responsible for 5,020 disabled Iowans in 1975. This regional-state discrepancy in ranking is wiped out when one considers that two previously ranked categories which DPI listed separately have been lumped in the regional study, and that the DPI study includes the category mental retardation which the National study does not. DPI estimated that 72% of those 5,020 persons disabled from neoplasms are 45 and older, and that 40% were 65 and over.

Hearing impairments were the ninth ranked cause of disability regionally in 1975. The Iowa State Department of Public Instruction ranked them tenth, estimating there were 5,870 hearing disabled persons in the state. One point, five percent of all disabled were hearing impaired. The Deaf Services Section of the Iowa State Department of Health cites the National Census of the Deaf Population** conducted in 1971 in projecting the numbers of hearing impaired and deaf* in Iowa. Whether a hearing impairment or deafness results in a "disability" as we are using the term here is in large part a function of the age of the impairments onset. Persons deafened before the age of 19 or prevocationally deaf suffer the greatest economic consequences of all deaf. Prelingually deaf persons do even less well in the job market. The prevocationally deaf receive a "different" kind of schooling, often residential and college is not often practical.

While deaf males are employed somewhat more frequently than white males in general; but deaf females and nonwhite males have higher unemployment roles. Underemployment is greater and lower then average incomes (72% of U.S. average for prevocationally deaf) plague of deaf.

According to the National Census of the Deaf, 6,778 Iowans of all ages are or were prevocationally deaf and another 20,274 are deaf who were deafened after age 19.

There is a large discrepancy between the Department of Public Instruction and the National Census of the Deaf. However, it is significant to note that the number of hearing impaired Department of Public Instruction projects to the disabled, 5,020 is close to the 6,778 which the National Census of the Deaf considers to be the population most impaired economically and psychologically.

*Deafness is defined as significant bilateral hearing impairments, which result in the inability to understand speech, the ability to hear and understand only a few words, or the ability to hear and understand most but not all normal speech.

**Source: The Deaf Population of the United States.

Genitourinary

Diseases of the genitourinary system ranked tenth nationally and regionally as a cause of disability, and ninth in the State in 1975. DPI estimated 11,800 disabled persons were impaired because of genitourinary disorders, approximately 69% of whom were 45 and older, and 41% of whom were 65 and over.

State Health Officials estimate that at any one point in time 150 persons need kidney transplants. Most persons wait many months for such transplants as four to six per month are performed at the University of Iowa. At the end of January, 1978, 246 persons were on dialysis in the state and 208 persons with organ transplants were still living.

Summary

Overall, DPI estimated that persons less than 17 accounted for 10%, persons 17-44 - 23%, persons 45-64 - 25%, and persons 65 and over - 42% of the 393,590 disabled persons in Iowa in 1975. Regionally, its estimated that of the 7,675,000 disabled (excluding mentally retarded) 34% were less than 45, and 66% were 45 and over. Orthopedic impairments, circulatory condition, and mental retardation were the three leading causes of chronic disability in Iowa according to DPI data.

SEVERITY AND DURATION OF CHRONIC DISABILITY

Circulatory

Heart disease has been the leading cause of death in Iowa every year from 1970 through 1975, mainly because for all five-year-age-cohorts 44 and over (44-49, 50-54, etc.) heart disease was the primary killer. Heart disease, cerebrovascular disease, arteriosclerosis and other diseases of the arteries, arterioles and capillaries have been four of the 11 leading causes of death in the state for each year between

1970 and 1975. Circulatory diseases were the fourth cause of hospitalization in Iowa in 1975. They were the first cause of hospitalization for persons 45-64 and 65 and over that year, total circulatory conditions accounted for 10% of all hospitalizations.

Respiratory

The chronic respiratory conditions of bronchitis, emphysema and asthma ranked from 1970 through 1975 as the seventh leading cause of death in Iowa. Respiratory conditions have been the second leading cause of hospitalization in Iowa in 1975, accounting for 11% of all hospitalizations. They were the first cause of hospitalizations for persons 19 and younger, and the third cause for persons 65 and over.

Digestive

Diseases of the digestive system, mainly ulcers and hernias, have been the first leading cause of hospitalization in Iowa in 1975, but they have not been among the ten leading causes of death since 1970.

Diabetes

Diabetes has been the seventh leading cause of death in Iowa for every year from 1970 through 1975, but was not ranked among the 10 major causes of hospitalizations in the state in 1975.

Sense/Nervous

Diseases of the sense organs and nervous system have been the 10th leading cause of hospitalization in the state in 1975. Diseases of eyes accounted for 37% and diseases of the ear 23% of these hospitalization. Neither of these categories were among the leading causes of death.

Neoplasms

Malignant neoplasms have been the second leading cause of death in Iowa for every year between 1970 and 1975. The most frequently

deadly cancers have been of the lung, ovary, uterine, breast, prostate and bladder.

The most prevalent have been those cancers of the prostate, breast, bronchus and lungs and rectum.

Malignant neoplasms were seventh leading cause of hospitalizations in Iowa in 1975. For persons less than 19, they were the sixth leading cause of hospitalization.

DHEW estimated in 1974 that 14% of the U.S. population is chronically disabled (MRs excluded). Seventy-two percent of these disabilities were mild, 53% major and 25% severe, Of those persons with severe disabilities, 88% were 45 and over. Of those persons with major disabilities, 69% were 45 and older; somewhat less than seven percent were under 17 years.

Of those persons mildly disabled 57% were 45 and older and 17% were less than 17 years old.

Additionally, for all of these levels of disability, persons 45 and over were more likely to have been disabled for more than five years, while the younger population was more likely to have been disabled less than one year. All age groups were about equally likely to be disabled from one to four years, whether mild, major or severe disabilities were involved.

HSA AND NATIONAL PRIORITIES

The Department of Health Education and Welfare, in December of 1977 established 1 general national goal with regard to health status, and seven subgoals.

Four of those subgoals pertain to our analysis of chronic and disabling conditions. They are:

(1)C Preventable morbidity and mortality from noncommunicable diseases and conditions should be reduced to the lowest rate reportable in comparable population.

(1)D Deaths from accidents and violence should be less than 60/100,000 persons for the nation. (Although this subgoal talks about death, accidents are a major cause of the physical impairments and paralysis of the disabled.

(1)E (a) The incidence and prevalence of mental illness should be reduced. (An indepth analysis of mental health is given in the mental health section of this plan).

(1)F An increasing portion of persons with chronic disabilities should be enabled to function to their fullest.

The lessening of handicapping conditions appear to be of high national priority.

Both the Illowa and Iowa HSAs have health status goals in their health systems plans addressing the reduction of activity limitations due to chronic conditions. Additionally Illowa addresses in a goal reducing mortality rates due to the 8 leading causes of death in the Illowa area. All but one of these causes contributes to the most prevalent handicapping conditions.

The Iowa Health Systems Agency has another goal, which speaks to reducing the complications from chronic and degenerative diseases in later life. Among the Midlands HSA's 22 top priority service and status goals, mortality from chronic diseases of the heart, respiratory system, circulatory system, and myeloid lukemia are priority areas.

Summary - Handicapping and Disabling Conditions in Iowa

Persons 45 and over, particularly those persons age 65 and over, are at higher risk than persons less than 45 of being disabled due to chronic

conditions and impairments. They are particularly at risk to be disabled from chronic circulatory, musculoskeletal and chronic respiratory conditions. Lessening the prevalence and severity of disabilities in all age groups, but most especially for persons 45 and over, entails lessening the prevalence of chronic conditions. This task is not easy. Chronic conditions are often the result of lifestyles well established by age 45 as well as predisposing genetic factors. Interventions can prevent some chronic conditions through education, treatment, and regulations (such as occupational and highway safety standards) but seldom do interventions cure them, no matter what the age group.

Among persons less than 44 years of age, mental retardation followed by musculoskeletal conditions, and mental/nervous system disorders are the most prevalent disabling chronic conditions. For this age group preventing chronic conditions and disabilities is often more feasible than for persons 45 and over. Education, regulation and treatment again are the key interventions. For the middle age cohorts of persons 17-44 years of age chronic circulatory and respiratory conditions also begin to become significant causes of disability.

HEALTH STATUS GOALS

GOAL: THE REDUCED INCIDENCE OF ACTIVITY LIMITATIONS (DISABILITY) IN PERSONS WITH CHRONIC CONDITIONS SUCH THAT POPULATIONS "AT RISK" ARE MORE ABLE TO INDEPENDENTLY FUNCTION.

The goal addresses improving the quality of life.

Objective 1: By 1982 only 4.5% or 135,173 persons of Iowa being disabled from musculoskeletal amputations, impairment and paralysis.

In 1975 an estimated 4.5% or 127,180 persons were so disabled. Reducing musculoskeletal caused disability and paralysis is a matter in part of greater occupationa, recreational, home and highway safety. In those

persons 45 and over such impairments tend to be more long lasting and more severe than in persons younger than 45 years. Although many chronic conditions in the population of persons 45 and over cannot be eliminated the disabilities they cause can be lessened through maintenance services, proper exercise and health services monitoring and follow-up of the condition.

Objective 2: By 1982 a rate of 520.0 deaths per 100,000 persons from the major five classifications of circulatory diseases causing death. (heart disease, stroke, arteriosclerosis, hypertension and other diseases of the arteries, arteriole, and capillaries.

In 1975 the death rate from circulatory disease was 534.3 per 100,000 persons, in 1970 the rate was approximately 588.8 per 100,000 persons.

In the five year period from 1970-75 the death rate from these diseases decreased about 10%.

6.8% of Iowa's population in 1975 disabled as a result of chronic circulatory diseases including hypertension, arteriosclerosis, chronic heart disease, and hemorrhoids. Effective hypertension education and follow-up has begun to reduce the prevalence of hypertension and its effects. Lifestyle changes resulting from health education emphasizes the role of eating, smoking and exercise in the past decade or so have begun to reduce the mortality rates from chronic circulatory disease. However this rate particularly among that group 45-65 can still be lowered even further.

Analysis

In terms of ameliorating or preventing disabilities, one must look at the factors that contribute to the diseases and conditions which create the disability.

The table on the next page marks off those contributing factors. Health care interventions which take to task the lifestyle, environmental, and family history/genetic factors listed, can prevent as well as ameliorate chronic diseases and so their disabilities. Health care services which detect, diagnose and treat conditions can only ameliorate, or keep from worsening, or causing too much pain in an already existing chronic condition, and thereby lessen or prevent disability.

Preventive services and knowledge development are two of seven national priorities listed in the National Forward Plan for Health FY 1977-81. Our own enabling legislation, P.L. 93-641, lists 10 national priorities, three of which relate to disease prevention/early detection, and education. They are:

4) The training and increased utilization of physician assistants and nurse clinicians. (Who patient educate as well as screen in such settings as well-elderly and child health clinics),

8) The promotion of activities for the prevention of diseases, including studies of nutritional and environmental factors affecting health and the provision of preventive health care services,

10) The development of effective methods of educating the general public concerning proper personal (including preventive) health care and methods for effective use of avoidable health services.

FACTORS CONTRIBUTING TO DISEASES CAUSING DISABILITIES

	Lifestyle										Environment		Medical			
Problem Area	Diet	Cigarettes	Alcohol	Diabetes/high Blood Sugar	Stress	Obesity	Sedentary Living	Driving Habits	Hypertension	Genetics/Family History	Environmental Risks Pollution	Occupational Hazards	Unnecessary Surgery	Overtreatment	Diagnosis and Treatment	Other Determinants
Musculoskeletal Conditions				X		X	X			X					X	
Arthritis							X			X					X	
M/S Impairments				X		X	X	X		X					X	
Paralysis																
Circulatory Diseases	X	X		X	X	X	X			X	X	X			X	
Diseases of the Heart	X	X		X	X	X	X		X	X	X				X	Psychosocial tension Atherosclerosis
Hypertension	X	X		X	X	X	X		X	X	X				X	Same as above
Arteriosclerosis	X	X			X	X	X								X	Serum lipids
Cerebrovascular Diseases	X			X	X	X			X						X	
Other Diseases of Arteries & Arterioles																
Chronic Respiratory		X								X	X	X			X	
Bronchitis		X								X	X	X			X	
Emphysema		X								X	X	X			X	
Asthma		X								X	X	X			X	
Hayfever		X								X					X	Allergies
Others																
Disease of Digestive System												X				
Hernia															X	
Ulcers	X	X	X			X				X	X				X	
Visual Impairments				X						X					X	Correction-Treatment
Diabetes	X		X	X						X					X	Treatment
Mental & Nervous Condition			X		X	X	X		X	X		X	X		X	Treatment
Hearing Impairment							X		X			X				Treatment
Neoplasms (Preventable & Treatable		X								X	X	X			X	

Two of the HSAs in Iowa have prioritized comprehensive school health education services which the third discusses in its HSP the need for health education in public and nonpublic schools'

Additional services which are HSA priorities and affect most chronic conditions and disabilities are:

Home Health Services - all three HSAs

Hypertension Screening - Iowa HSA

Long-term Care Facilities Availability - Illowa HSA.

Because of the national and HSA priorities mentioned, the following service areas are addressed in this year's State Health Plan:

Community Health Promotion and Protection Services

1) School Health Education, K-12

Health in other settings, the work place, inpatient and ambulatory care settings, the community - congregate meal sites, adult education classes are also important, but will not be taken into consideration this year.

Prevention and Detection Services

2) Genetic Counseling

These services are discussed in the maternal and child health section of the Plan.

3) Well-Elderly Clinics

4) Hypertension Screening

Provider education as well as follow-up services are going to be discussed.

Rehabilitation Services

5) Home Health Care

Institutional rehabilitation services will not be discussed except as they touch upon home health care.

For the most part, any discussion of facilities will be limited to the State Medical Facilities Plan to be written by the SHPDA later this year.

6) Adult Day Care Services

COMMUNITY HEALTH PROMOTION AND PROTECTION SERVICES

Community health promotion and protection services are directed at the community level toward improving the personal behavior of community residents and improving the quality of factors in the environment which affect health.

Included under our definition of Community Health Promotion and Protection Services are education, occupational health, food protection, and environmental concerns. In this analysis of community health promotion and protection services that relate to the problem of handicapping disabilities only education is considered. Although other of these services do touch upon handicapping conditions as shown on page · they will not be addressed this year. (The environment is addressed beginning on page). Education in the school and public health education are touched upon here.

School Health Education

Indicators

Number of certified teachers, by number of certified teachers teaching

Classes offered by number of students enrolled by location

Costs per pupil enrolled

Desired System

The costs of the ideal system, comprehensive school health education in grades Kindergarten through 12, are difficult to count. State, federal and local tax dollars would no doubt be involved.

State legislation would be required to change the present minimum health education requirements in public schools. At each grade health education on certain topics would be taken by students in public schools. Teacher certification in health education now voluntary would be a requirement for persons wishing to teach health education.

Present System

Cost

There are no estimates of the costs presently involved in school education. The percentage of teachers' salaries, facilities, administration and supply costs are not readily dividable to the time spent in health education.

Availability

Two years ago the state legislature made health education a speciality by which teachers can be voluntarily certified. No records of the percentage of these certified teachers now teaching health education are available.

In the 1976-77 school year, about 15 different health education classes were taught to 11,359 students at the secondary level. They included the following course titles:

LOCAL SCHOOL DISTRICTS - GRADES 7-12

COURSE	LENGTH OF CLASS IN SEMESTER/YEAR	# OF PUPILS TAKING CLASS	SCHOOL DISTRICT OFFERING CLASS
Health Technology	2	8	1
Health-Occupations	1	46	1
Alcohol and Drugs	.5	53	1
First Aid	.13- .50	805	14
Health I	.20-1.00	6,131	61
Health II	.5 -2.00	111	5
Health Aide	.25-2.00	110	9
Community Health	.25-2.00	37	4
Environmental Health	.25- .50	159	2
Health Occupations	.25-2.00	344	25
Personal Hygiene	.25- .50	199	3
Medicine	.50-1.00	30	11
Safety Education	.50	250	2
Sex Education/Family	.25	17	1
Health/PE Together	.25-1.00	3,055	13

Source: Department of Public Instruction

325,471 students are in these grades in public schools in Iowa

The Department of Public Instruction does not have available a list of health education courses taught at the primary grades. Curriculum requirements in the State law presently lump P.E. and health education together, failing to specify what "health education" must include at either the primary or secondary grade levels.

Accessibility

Accessibility is sporadic but not specifically known. The extent to which health education is a part of a school's curriculum is a local school district decision.

COMMUNITY HEALTH PROMOTION AND PROTECTION SERVICES

GOAL 1: INCREASED AVAILABILITY OF PERSONAL HEALTH EDUCATION PROGRAMS IN THE SCHOOL, HOME, WORK PLACE, AND HEALTH CARE SERVICES SETTINGS THAT:

Improve comprehension of health information including health economics,

Emphasize individual responsibility for personal health status, and

Emphasize individual responsibility for appropriate utilization of health care services.

SCHOOL HEALTH EDUCATION

Availability

Objective 1: By 1982, the development and utilization of comprehensive health education curricula in the public school system in grades kindergarten through 12th grade.

While traditional and experimental curriculum components dealing with various subjects relative to personal health and hygiene are offered to primary and secondary school students, few school districts offer a comprehensive health education curriculum. School health education programs are faced with the constraints of low visibility and low

priority, a narrow definition of the appropriate content and jurisdiction, and a shortage of adequately trained health educators. Developing comprehensive curricula for health education in schools would lead to increased availability of and accessibility to health education services which would tend to result in positive personal health behavior.

Cost estimates must be developed in conjunction with the following LRRAs.

LRRA: By 1980 a statewide task force to prepare and adopt a plan of action and position paper on school health education will be convened. This work of the task force will be the basis for gaining needed support for comprehensive school health education in the state. The task force will have a representative of the State Health Department Venereal Disease Section. The plan of action will identify costs, personnel requirements and implementation strategy.

The public health and school nurse currently provide in many counties information to teachers and students about venereal disease. Although, in the case of the public health nurse, preventive education is often low priority because of scarcity of personnel.

Actors in the statewide task force include:

Public-school health nurses

Department of Public Instruction

Area Education Agencies

Iowa Association of School Boards

Iowa Association for Health, Physical Education, and Recreation

State Health Department

State Department of Substance Abuse

3 Health Systems Agencies in Iowa

Objective 2: By 1982 Form 109 the monthly report which county public health nurses send to County Public Health Nursing regional offices, which in turn send information to the State, changed to include an item regarding hours of health education provided and used.

LRRA: The Community Health Division of the State Health Department will, with input from local public health nurses, make necessary changes by 1980.

with a $1.00 cost per elevated reading at screening. However, most hypertension screening clinics do not charge fees to those persons coming to them. Hypertension screening is a routine procedure in hospitals, in doctors and some dentists' offices for which there is no direct charge.

Availability

In Iowa 65,982 persons passed through 136 hypertension screening programs in 63 counties sponsored by the Iowa Heart Association, (IHA) in 1976. Many others were screened in clinics funded by community organizations. Of those 65,982 persons screened, 11.5% had elevated pressure. About 50% had their blood pressure measured previously in the past year. Of the 7,583 or 11.5% with elevated pressure only 35% were on treatment. In April, 1977, the Iowa State Department of Health contracted with the IHA to improve the results of the mass screening programs by providing education to program sponsors and volunteers.

In follow-up letters sent by the Department to those persons found to have elevated pressure 68.5% indicated that they contacted their physicians since being screened.

Additional to this screening program just described, the Hypertension and Renal Dialysis Section of the State Health Department administered the following programs in FY 1976-77. Only the previously described screening program and numbers 3 and 4 below are being conducted in FY 1977-78,

1) The Statewide Educational Program on Hypertension.
2) Hypertension Circuit Course Program for Nurses.

   Provided through contract with the Iowa Heart Association, this program educated nurses on the control and management of hypertension. In the project period September, 1976 though June, 1977 the program was presented 15 times.

PREVENTION AND DETECTION SERVICES

Prevention and detection services are delivered to individuals in order to promote optimum physical and mental well-being, including protection from the development of disease and ill-health, or to identify disease or ill-health at the presymptomatic or unrecognized symptomatic state to permit early intervention.

HYPERTENSION SCREENING AND FOLLOW-UP AND EDUCATION

INDICATORS

Program budgets by program area

Cost per screening

Cost per position case finding

Numbers of screening follow-ups per geographical location

Desired System

Follow-up for all persons with elevated blood pressure at screening should be a part of screening programs in all settings. Closer ties between physicians who provide treatment and special screening programs should be provided. Persons with elevated pressure must have financial accessibility to treatment and all persons must be fully knowledgeable of the repercussions on their health if treatment is not sought and personal lifestyles are not changed.

Present System

Cost

The Hypertension and Renal Disease Section of the Iowa Health Department spent approximately $125,000 last year in educating providers and consumers, and in screening and in follow-up services for hypertension. The monies, largely spent on education, and less on screening, were mainly expended through contracts with voluntary organizations, and the University of Iowa.

The cost per screen in hypertension screening clinics runs about 20

3) Consumer Hypertension Education Program

The Kidney Foundation of Iowa was contracted to identify target community groups, to conduct intensive hypertension education programs, and to recruit and train local volunteers to assist in planning and presenting the programs. The program has been initiated in Linn, Webster, Marshall, Scott and Black Hawk Counties.

4) Hypertension Education and Screening Program for Inner City Residents.

Sponsors of the programs are in addition to the State Health Department, the Des Moines-Polk County Health Department, the State Kidney Foundation and the Iowa Heart Association. This program has only been initiated in the last few months. Recently, studies have shown that screening of the population in general is not as efficient as targeting high risk groups. Black males are at high risk to develop hypertension. For this reason Neighborhood Development site offices, churches, grocery stores, Urban Campus, recreation and day care centers around the inner city are among the probable sites in Des Moines for the implementation of this program.

5) Dental Referral Forms.

The project made available to dentists, who were interested, a referral form by which the name of persons whom they find to have elevated blood pressure could be sent to the State Health Department to allow for reporting and follow-up on those persons.

1976 HYPERTENSION SCREENING PROGRAM
FOR IOWA

NUMBER OF PERSONS SCREENED BY SEX & AGE				(% = percent of age/sex group with an elevated blood pressure)											
	Total Screened	Total Elevated*		UNDER 25			25 - 44			45 - 64			65 +		
		#	%	Total Screened	# Elev.	% Elev.	Total Screened	# Elev.	% Elev.	Total Screened	# Elev.	% Elev.	Total Screened	# Elev.	% Elev.
TOTAL	65,982	7,583	11.5	10,853	201	1.9	13,543	814	6.0	20,279	2,723	13.4	19,740	3,646	18.5
Male	28,970	3,107	10.7	5,575	147	2.6	6,767	444	6.6	8,675	1,134	13.1	7,953	1,323	16.6
Female	35,445	4,436	12.5	5,278	54	1.0	6,776	370	5.5	11,604	1,585	13.7	11,787	2,317	19.7

Not Stated 1,567
% of all elevateds who returned form indicating they had contacted or seen their physician 68.5.

Occasionally, the numbers shown in the age/sex groups do not add to the total listed. This is usually because the age or sex was not stated on a few forms.

*Criteria for elevated is a reading equal to or greater than 160 Systolic and/or 90 Diastolic.

Accessibility

Hypertension screening, follow-up, and education are geographically equally distributed throughout the state.

WELL-ELDERLY CLINICS

The elderly have been identified as being at risk for developing chronic disabilities. Early detection programs are needed which will help to maintain wellness among older people, and prevent acute health care crises.

An alternative to publicly funded elderly screening clinics is offered in Iowa through the activities of farm and labor groups. One such program is carried out by American Health Profiles, Inc. of Nashville, Tennessee, which contracts with rural organizations to screen residents of a particular area. While this service is not reserved for the elderly, it presents a different, although expensive option. Present estimates of cost to the individual for the screening package are $65. More information than is available in our time frame is needed to evaluate the efficacy of this type of program. In this section only well-elderly screening programs are discussed.

Indicators

Cost per patient screened

Services by location, by number served

Desired Services

Well-elderly clinics should serve, like child-health clinics, as a point of entry to health care services for those elderly persons who for financial or other reasons do not seek physical "check-ups" or screening from a family physician. Well-elderly clinics should screen, educate, and refer as needed to other services. Experienced public health nurses or nurse practitioners head the clinics, who should have back-up physician consultation as needed. Fees should be on a sliding scale.

Services should be offered in multiple sites throughout the 99 counties.

Present System

Availability

Many disease detection programs in Iowa have inadequate follow-up programs and are limited in the kind of physical history and assessment made of patients screened. Such is not the case in most well-elderly clinics.

One problem that does exist regarding well-elderly clinics is the lack of definition of what specific services an assessment program must include to be called a well-elderly clinic.

Presently five state funded well-elderly demonstration screening programs based in Scott, Des Moines, Calhoun, Poweshiek and Iowa Counties serve 8 counties. Other well-elderly screening programs similar to those funded with state monies are operated on county or other funds in Story (city program), Winnebago, Black Hawk, Cherokee, Jones, and Dubuque Counties. Additionally the University of Iowa, Iowa Wesleyan, and the Area Agencies on Aging sponsor well-elderly programs. There

are also a few counties, Clinton, Appanoose and Story (county program) among them, which offer elderly screening programs which are less extensive than those previously mentioned. Church groups around the state also offer, sporadically, short-term elderly assessment clinics. Many elderly who can afford regular physician visits are screened by private physicians.

Four of five state sponsored well-elderly programs have been in operation for over two years, (Poweshiek, Des Moines, Calhoun and Scott County). A fifth operation has been coordinated by the University of Iowa in the small town of Williamsburg in Iowa County. (The Iowa County program is newer.) Sporadically, church groups have funded other short-term elderly check-up clinics.

The typical rural clinic has developed to operate as follows:

- o A clinic site (usually church or community building) date and time for a rural community is selected.
- o Appointments are scheduled for people to come to the clinic.
- o On clinic day the clients are greeted, registered, and general data and social history are taken by a clerical person or a social worker.
- o A physical assessment is done by the public health nurses including such aspects as general observation; vital signs; looking in the eyes, ears, nose, mouth and throat; simple vision check; auscultation of lungs and heart, check of peripheral pulses, breast examination, palpation of abdomen; check of muscles, joints, reflexes and sensation; check of skin, check of lymph nodes; and possibly such additional procedures as rectal examination, pelvic examination, and tonometry of eyes.

- o Specimens are secured by the nurse or a technician for laboratory work including blood (for sugar and hemoglobin), urine (urinalysis), and usually stool (for blood).
- o TB test may be applied by nurse.
- o Throughout the entire process the nurse does individual health education.
- o The client is advised of the findings of the history, assessment, and laboratory work and told of the recommended action (see their physician or dentist, have a recheck by the public health nurse, apply for food stamps or other program, etc.).
- o If the patient was referred to some resource for care or follow-up, a contact was made after an appropriate interval to see if the patient had been able to secure the necessary assistance and to learn what the outcome was.

The typical urban program has developed in a similar pattern but frequently is held in a fixed location on a regular basis.

As indicated earlier, state funded well-elderly clinics were initiated from October, 1975 through March, 1976. From their inception, through the end of 1976, there were almost 300 clinics held with 3,176 individuals seen. The age and sex of those served is shown below.* The number of elderly persons seen in other programs is not known.

SEX			AGE		
Female	2,199	69%	Under Age 60	125	4%
Male	925	29%	60-64	528	17%
Sex not Stated	52	2%	65-75	1445	45%
			Over 75	1051	33%
			Age not stated	27	1%
TOTAL	3,176	100%	TOTAL	3176	100%

*Ronald Eckoff, M.D., M.P.H. "Report to the Legislature on Well Elderly Clinic Demonstration Projects..." Iowa Department of Health, February 10, 1977.

Start-up costs for a well-elderly clinic will vary among counties depending on a number of factors, including the number of public health nurses in the clinic and the experience they have had in this type of detection activity. In general, basic equipment costs have been around $1,500 to $2,000 per clinic. In some instances, additional personnel training costs have amounted to $1,000.

An analysis has been made of the ongoing costs of the well-elderly clinics. The analysis focused on costs regardless of whether they were paid from project funds. The costs included nurses' time, clerical time, fringe benefits, travel, consumable supplies, identifiable rent, telephone, postage or miscellaneous costs, and when applicable, nurse practitioner consultant costs. The analysis usually did not include the cost of follow-up. It also did not include the time of personnel from other agencies, such as social services. The average per visit cost was $20. Consistently throughout the projects, one-half the cost was for nursing salaries (not including fringe benefits). The remainder was distributed among the other items mentioned above.* Costs of this kind of service, however, should be balanced against costs for institutionalization which might be avoided through increased utilization of detection services.

Based on the activity in the demonstration clinics, the following estimate could be made regarding expanded well-elderly clinic activities in Iowa. If there were sufficient projects to serve 30,000 Iowans over age 60, the cost of clinic activities would be about $600,000 per year. (This does not include start-up costs, follow-up costs, or nurse practitioner consultant costs.)

* Eckoff, "Report to the Legislature on Well Elderly Clinic Demonstration Projects..." Iowa Department of Health, February 10, 1977.

Summary of Prevention and Detection Services

At present, continuity among prevention services and other health care settings is a dilemma. Screening programs often are undertaken with little regard to the mechanics of ensuring that results of the individual's test are directed to appropriate primary care sources. This is particularly true with mass blood pressure testing programs where opportunities to schedule appointments for the patient needing referral are lacking.

Another concern is with the quality of testing. As the number of programs increase, as anticipated in the desired system, extra efforts are needed to ensure that qualified personnel are utilized and given instructions on how to administer tests. In well-elderly clinics the sensitivity is found that is needed in those providing services for the elderly. Also, as more ambulatory settings become involved in screening, additional care is needed in protecting specimens for laboratory procedures, and in maintaining condition of equipment generally.

Well-elderly programs, as do hypertension screening with follow-up and education programs in the State, are beginning to fill these gaps. Well-elderly screening programs must be further defined and so their quality and consistency assured in the State. Also hypertension education, follow-up and treatment must more and more become aspects of screening programs sponsored in Iowa.

PREVENTION AND DETECTION SERVICES GOALS

GOAL: INCREASE THE NUMBER OF "AT RISK" RESIDENTS USING SCREENING, EDUCATION, FOLLOW-UP, AND TREATMENT SERVICES FOR DISEASES WHICH CAN BE DETECTED AT PRESYMPTOMATIC AND EARLY SYMPTOMATIC STAGES IN ORDER TO INCREASE THE QUALITY OF HEALTH IN THESE INDIVIDUALS.

Currently 2,000 persons are screened annually in well-elderly clinics and 600,000 are screened in hypertension programs. The number of blacks screened is not known.

At risk groups for chronic and disabling conditions, the elderly for multiphasic, and blacks for hypertension, must be payed particular attention. Our analysis of health status indicates that approximately 75% all activity limitations due to chronic conditions are in those persons 45 and over and that 65% or 263,210 of all disabled persons with chronic conditions in Iowa are 45 and over.

Nationally blacks, men and women, are two times more likely to be hypertensive than whites. For blacks hypertension occurs earlier in life, is frequently more severe. Blacks have four times as many strokes as whites. Their shorter life span and higher death rates from circulatory diseases can be attributed in large part to hypertension.

An alternative to publicly funded elderly screening clinics is offered in Iowa through the activities of farm and labor groups. One such program is carried out by American Health Profiles, Inc. of Nashville, Tennessee, whcih contracts with rural organizations to screen residents of a particular area. While this service is not reserved for the elderly, it presents a different, although expensive option. Present estimates of cost to the individual for the screening package are $65. More information is needed to evaluate the efficacy of this type of program.

WELL-ELDERLY CLINICS

Availability

Objective 1: By 1982, 30,000 or between 5 and 6% of all persons over age 60 served annually in well-elderly clinic settings.

The number currently being screened is about 2,000 a year in clinics funded by the State. This is an increase of 1,500% from those elderly served in 1976-1977 in state programs. However, a presently indeterminable number of elderly are screened in other multiphasic screening programs and well-elderly clinics.

Early detection services for elderly can help to reduce the burden on primary care providers and reduce overall demand for acute care services among this group. Preliminary reports for well-elderly screening programs across the state indicate high rates of discoveries and referrals for further care. Such services also provide a social and emotional stimulus to elders in the community who may lead isolated lives. The Iowa Department of Health is seeking funds to assure that 30,000 individuals can be served annually in well-elderly clinics. This objective would work toward the goal of having residents using cost effective screening services.

LRRA: By 1980 funding sources will be identified and funding secured for the current operation of well-elderly clinics and for 25 additional clinics.

Local and state health departments, and HSAs, will be involved.

Costs for achieving this objective probably would run about $600,000 a year by 1982.

In some counties additional public health nurses will be needed. No new facilities will be required.

Objective 2: By 1980 the services provided in well-elderly programs in Iowa clearly defined.

LRRA: Public Health Officials in the state will continue the process to provide quality assurance in well-elderly programs by drafting a widely acceptable definition of well-elderly clinics such that such definition is used throughout the state.

HYPERTENSION

Availability

Objective 3: By 1982, 35% of all blacks, 19,906, screened for hypertension annually.

Despite increased publicity for hypertension control over the last decade, the evidence indicates that many individuals know very little about hypertension. More and earlier observation for, and control of, hypertension among residents may allow for a reduction in the incidence of strokes, heart attacks and resulting disabilities. The simplicity of initial testing, and the great number of people thought to be susceptible to this condition make this a worthwhile program to pursue. The figure of 35 percent was thought to be an attainable level by 1982.

LRRA: By 1980 the current State Health Department program to screen inner-city residents for hypertension will be continued in Des Moines. This program will be expanded or local groups in other Iowa metropolitan areas will be encouraged to and assisted in operating similar programs to the one in Des Moines in their communities. In total 1,000 blacks will be screened in Polk, Black Hawk, Woodbury and Scott Counties in public screening programs annually by 1980. Currently 400 blacks are screened annually in programs in these counties.

Objective 4: By 1982 increased physician and subsequently patient general education on hypertension and its treatment.

LRRA: The continuation of physician education programs begun by the Hypertension Section in the State Health Department. Hospital staffings and in-service meetings are ideal settings for such education.

REHABILITATION SERVICES

INTRODUCTION AND DEFINITIONS

Rehabilitation services are therapeutic services which restore or enable a disabled or impaired individual to achieve or maintain the fullest physical, ment social, vocational, and economic functioning. Rehabilitation services are theraputic in nature. Rehabilitation services involve evaluation of the needs of the disabled individual, and the management and evaluation of a rehabilitation program to meet those needs.* Evaluation and management services have traditionally been the responsibility of the physician; however, a multidisciplinary team composed of physicians, nurse practitioners, medical social workers, psychiatrists, physical therapists, and other appropriate habilitation and rehabilitation professionals is an approach to design management and evaluation which allows for total patient needs.

Those therapeutic rehabilitation services designed to meet the needs of disabled individuals include in addition to physician and nursing care:

physical therapy
occupational therapy
communication therapy
prosthetic/orthotic services
social/psychological therapy
recreation therapy.

Rehabilitation services can be provided in the home setting (home health services), ambulatory setting (hospital outpatient, rehabilitation center, day hospital, or day treatment center), short stay inpatient setting (hospital), or long stay inpatient setting (hospital, skilled nursing facility, intermediate nursing facility). Rehabilitation services are different from maintainence services in that they treat a disability, thereby lessening it. Maintenance services help persons accomplish certain activities and thereby lessen the disability or limitation. The difference is between treatment and "doing" for a person. Long-term care facilities classified as intermediate care, skilled nursing facilities and residential are considered maintenance services in general, even though they offer to some extent

*Taken in part from a Government Studies and Systems, A Taxonomy of the Health System for Plan Development, DHEW, 1976.

the rehabilitation services just listed. For the most part, the need for long-term care facilities will be discussed in the State Medical Facilities Plan to be written later this year.[1]

Through a special grant, the Iowa Department of Social Services funded core planning groups in each of the 16 Governor's Planning Regions. Since September of 1975, these groups have worked on total system plans (educational/vocational, social, physical, and residential) for the developmentally disabled in Iowa. These plans have now been compiled as the State Developmental Disabilities Plan. Specific rehabilitation needs of the developmentally disabled (persons disabled before age 17) are discussed beginning on page 159.

[1]See Appendix for further definition of maintenance and rehabilitation services.

HOME HEALTH SERVICES

INDICATORS

Services by location

Number services provided by location

DESIRED SYSTEM

Rehabilitation services are more often available on an inpatient basis than in the home or ambulatory setting. Not everyone in need of rehabilitation, however, requires 24 hour care. If rehabilitation services were available through more home health agencies and day treatment centers, earlier discharge from hospital care might be possible, at a cost savings to the individual and third party payers. Availability of a rehabilitation programs in the home or ambulatory setting after discharge from an inpatient setting would allow for continued progress of rehabilitation or maintenance of full function, and reduce the threat of the indivdual becoming isolated and suffering a deterioration of function.

Payment mechanisms should not serve to restrict care options. Rehabilitation services should be reimbursed regardless of setting, so that an individual in need of rehabilitation services might freely choose among in-home, day treatment, inpatient hospital, or nursing care facility services to select the most appropriate setting for receipt of needed service.

Rehabilitation services should be geographically distributed so that travel time does not excessively limit or restrict accessibility.

Attitudes should not form barriers to either the use of services by individuals or referral for services by providers. Age prejudice should not interfere with an individual receiving needed rehabilitation services.

Reimbursement mechanisms should include incentives for individuals to choose the right care at the appropriate time. There should be incentives for individuals to select and for providers to suggest the most approrpiate setting and/or level of care. More efficient utilization of resources may be realized by providing services in a variety of settings.

Ideally the individual enters at the most appropriate point to meet his or her needs and moves freely through the system of services and facilities. However, in practice this does not always happen. Some tracking of clients in rehabilitation service system should take place by the various agencies services, a patient advocate or a team of providers from various disciplines.

One caution must be raised about the availability of rehabilitation services in the home setting. Few home health agencies have their own physical, speech or occupational therapists. As with long-term care institutions contracts may be signed between a home health care agency and a physical therapist, occupational therapist or whatever, and then that contract seldom used. This may be because doctors are unaware or not accustomed to prescribing home health care and/or that therapists themselves do not find the work attractive. The actual number of home therapeutic visits by physical, occupational and speech therapists is not known, but can be assumed to be low in any county where the medical profession and certified home health care agency have not made use of their contracts a priority.

Indicators

Number of services by site, by number of persons served.

Services/population ratio (population in need and population receiving the service).

Reimbursement coverage by service.

Number of personnel by service.

Cost of services by number of persons served.

Present System

Cost

Charges for home health services vary. For example, fees for home physical therapy visits range from $12 per visit to $30. Most charges

fall between $12-$15. Charges for speech therapy range from $13 to $20.

Availability and Accessibility

The focus of rehabilitation for this Plan is the home and ambulatory setting. We have specifically limited our discussion to home health care, and ambulatory day treatment. Public health nursing agencies and community and hospital based home health agencies are the major providers of rehabilitation services in the home setting. Such agencies are certified for Medicare/Medicaid reimbursement if they offer nursing services and one other of the six basic home care services. These basic services include home health aide, physical therapy, occupational therapy, speech pathology, and medical social services. The chart on the following page shows the distribution of these services. Only two certified agencies in Iowa provide all six basic services. Twenty-seven of the 99 counties in the State have no certified home health agencies. The disabled persons in those counties on Medicare have no reimburseable home health services available.

H.F. 597 passed by the legislature in 1977 gave the State Health Department $1.6 million for home health care services to be distributed on a formula basis to counties. All 110 eligible jurisdictions including cities, counties and city-county groups, except 2 counties, applied for and received from $6,800 to $82,920. Governor Ray in his State of the State address, January 1978, endorsed the renewal of H.F. 597. As a result of Governor Ray's endorsement, in the spring of 1978 the State legislature appropriated $2,228,000 for H.F. 597. If these monies continue most of the 27 counties yet to be certified are expected to hire and/or contract with the necessary staff to become certified within five to ten years. Eight-one certified agencies now operate in Iowa.

HOME HEALTH CARE SERVICES OFFERED BY CERTIFIED AGENCIES 1978

IOWA HSA

SUBAREA 1	NC	H/HHA	SP	OT	PT	MSS
1 Allamakee						
Black Hawk	XX*	XX*	X		XX	
1 Bremer						
Buchanan	X	X				
1 Butler						
Cerro Gordo	XX*	X				
Chickasaw	X	X				
Clayton	X	X			X	
Fayette						
Floyd	X	X			X	
1 Franklin						
Grundy	X	X			X	
Hancock	X	X			X	
Hardin	X	X	X			
Howard	X	X				
1 Kossuth						
Mitchell	X	X		X	X	
Tama	X	X				
Winnebago	X	X				
Winneshiek	X	X			X	
Worth	X	X			X	

SUBAREA 2						
Buenta Vista	X	X	X		X	
Cherokee	X	X	X		X	
Clay	X	X	X			
Dickinson						
Emmet	X	X				
Ida	X	X			X	
1 Lyon						
Monona	X	X				
O'Brien						
1 Osceola						
Palo Alto	X	X			X	
1 Plymouth						
Sioux						
1 Woodbury	XX*	X	XX*	X	X	X
Dakota, NE.	Served by Woodbury County					

SUBAREA 3						
Audubon	X	X				
1 Calhoun						
Carroll	X	X			X	
Cass	X	X			X	
Crawford	X	X				
Greene						
Guthrie						
Hamilton	X	X				
1 Humboldt						
1 Pocahontas						
Sac						
1 Webster						
1 Wright						

ILLOWA HSA						
Muscatine	X	X			X	
Scott	X	X	X		X	

IOWA HSA

SUBAREA 4	NC	H/HHA	SP	OT	PT	MSS
1 Adair						
1 Adams						
1 Appanoose	X	X				
Boone	X	X	X			
1 Clarke						
Dallas	X	X				
1 Decatur						
Jasper	X	X	X		X	
Lucas	X	X				
Madison	X	X				
Mahaska	X	X			X	
Marion	X	X				
1 Marshall						
Polk	X	X	X	X	X	X
Poweshiek	X	X				
Ringgold	X	X				
Story	XX*	XX*	X	XX*	XX*	
Taylor	X	X				
Union	X	X				
Warren	X	X				
Wayne	X	X				

SUBAREA 5						
Benton	X	X				
Cedar	X	X		X	X	
Clinton	XX*	X	XX*	X	XX*	
Davis						
Delaware						
Des Moines	XX*	XX*				
Dubuque	XX	XX	X	X	X	
Henry	X	X				
Iowa	X	X				
Jackson	X	X			X	
Jefferson	X				X	
Johnson	X	X	X		X	
1 Jones						
Keokuk	X	X				
Lee	XX*	XX*				
Linn	XX*	XX*	X	XX*	XX*	X
Louisa	X	X			X	
Monroe	X	X			X	
Van Buren						
Wapello	XX*				XX*	
Washington						

MIDLANDS HSA						
Fremont						
Harrison	X	X				
Mills	X	X				
Montgomery	X	X				
Page						
Pottawattamie	X	X				
Shelby	X	X				

KEY:

- NC - Nursing Care
- H/HHA - Homemaker/Home Health Aide
- SP - Speech Therapy
- OT - Occupational Therapy
- PT - Physical Therapy
- MSS - Medical Social Services
- * - 2 certified agencies in the county offer this service.
- 1 - Homemaker services are available in county although not medicare reimbursable.

SOURCE: Iowa State Department of Health
Division of Community Health
January 26, 1978.

ADULT DAY CARE

COST

The charge per day for therapeutic day treatment services ranges from $10 to $14, including meals and transportation at most centers. Several centers use a sliding fee scale, with, for example, clients paying a portion of the charge and the county board of supervisors makingup the difference. For clients who are unable to pay any amount, Title XX funding is possible.

AVAILABILITY

Rehabilitation services in the ambulatory setting are available also through adult day treatment centers and day hospitals which are relatively underdeveloped alternatives to inpatient rehabilitation services in this health service area. Adult day treatment rehabilitation centers have been established in Waterloo, Cedar Rapids, and Ames for some time. The service capacity for these centers ranges from 10 to 35 participants attending one to five days per week with an average length of attendance of approximately five months. Additional adult day treatment centers opened in late 1977 in Dubuque, Onawa, Burlington and Spencer.

ACCESSIBILITY

Geographic accessibility to day treatment services is limited. Anticipating within the Iowa HSA, a total of nine day treatment centers in 1977,/one will be located in Subarea 1, two in Subarea 2, none in Subarea 3, one in Subarea 4, and five (including one psychiatric day hospital and one psychiatric day treatment center) in Subarea 5.

The financial accessibility to rehabilitation services in the ambulatory day treatment setting is limited by the absence of coverage by third party reimbursement programs. Reimbursement under Medicare and Medicaid is hampered by strict regulations. Day hospital treatment, as a hospital out-patient service, is a mandatory service under Medicaid, but the single day hospital in this health servic area is not yet covered under Title XIX. Title XX of the Social Security Act is currently the primary funding source for day treatment services in this health service area.

HOURS OF HOMEMAKER/HOME HEALTH SERVICES PER QUARTER OF YEAR, 1977

IOWA HSA

SUBAREA 1	Aver. Hrs Svc/1000[2] Population	Aver. No. Cases/1000[2] Population	Aver. No. Hrs.Svce Per Case[3]
Allamakee	167.4	2.8	58.8
Black Hawk	55.6	1.8	30.8
Bremer	28.7	0.4	65.5
Buchanan	67.4	1.5	44.7
Butler	56.5	1.2	48.5
Cerro Gordo	62.2	NR	NA
Chickasaw	70.1	1.6	44.5
Clayton	104.0	NR	NA
Fayette	NR	1.8	NA
Floyd	178.2	2.0	89.0
Franklin	81.4	3.2	25.6
Grundy	114.2	1.7	64.9
Hancock	104.3	2.9	35.8
Hardin	310.0	3.0	104.3
Howard	117.0	NR	NA
Kossuth	71.2	2.4	30.0
Mitchell	285.9	4.5	63.5
Tama	57.7	NR	NA
Winnebago	87.6	3.3	26.3
Winneshiek	NR	1.6	NA
Worth	370.2	6.9	53.6

SUBAREA 2			
Buena Vista	62.9	1.1	57.7
Cherokee	271.1	6.0	45.4
Clay	NR	NR	NA
Dickinson	NR	NR	NA
Emmet	90.2	NR	NA
Ida	NR	2.6	NA
Lyon	88.5	1.1	82.6
Monona	200.3	3.4	59.2
O'Brien	NR	1.9	NA
Osceola	242.4	3.4	72.2
Palo Alto	110.4	3.1	36.1
Plymouth	10.4	NR	NA
Sioux	101.6	1.1	90.9
Woodbury	25.9	1.0	25.4

SUBAREA 3			
Audubon	NR	NR	NA
Calhoun	127.4	NR	NA
Carroll	NR	NR	NA
Cass	51.2	NR	NA
Crawford	NR	NR	NA
Greene	NR	NR	NA
Guthrie	NR	NR	NA
Hamilton	265.7	NR	NA
Humboldt	166.5	2.4	58.6
Pocahontas	72.1	1.9	39.0
Sac	NR	NR	NA
Webster	108.0	NR	NA
Wright	68.3	1.6	42.9

ILLOWA HSA

Scott	132.3	2.4	54.0
Muscatine	0.0	0.0	

KEY:

[1]Based on 1st Quarter 1977 Iowa State Council for Homemaker Service-Program Service Reports

[2]1970 census counts

[3]Based on hours of service divided by cases.

* Data not available.

NA - Not applicable

NR - No Response

IOWA HSA

SUBAREA 4	Aver. Hrs. Svc/1000[2] Population	Aver. No. Cases/1000[2] Population	Aver. No. Hrs.Svce Per Case[3]
Adair	86.2	2.2	39.3
Adams	133.8	3.1	43.1
Appanoose	206.1	8.0	25.8
Boone	NR	NR	NA
Clarke	196.8	4.4	45.2
Dallas	286.6	2.3	126.2
Decatur	NR	7.5	NA
Jasper	63.6	NR	NA
Lucas	281.1	7.2	39.3
Madison	221.8	5.4	41.3
Mahaska	85.2	0.6	134.1
Marion	35.0	0.8	42.0
Marshall	86.6	NR	NA
Polk	61.0	1.3	47.4
Poweshiek	NR	2.1	NA
Ringgold	206.6	NR	NA
Story	NR	NR	NA
Taylor	85.4	NR	NA
Union	149.6	3.3	45.5
Warren	98.9	NR	NA
Wayne	204.2	4.2	48.8

SUBAREA 5			
Benton	6.0	1.0	6.0
Cedar	NR	NR	NA
Clinton	48.9	NR	NA
Davis	NR	NR	NA
Delaware	NR	NR	NA
Des Moines	NR	NR	NA
Dubuque	16.1	NR	NA
Henry	NR	NR	NA
Iowa	67.7	1.8	37.3
Jackson	57.4	1.4	39.8
Jefferson	NR	NR	NA
Johnson	40.4	NR	NA
Jones	72.4	NR	NA
Keokuk	NR	NR	NA
Lee	29.2	NR	NA
Linn	67.9	2.1	32.2
Louisa	NR	NR	NA
Monroe	519.4	4.5	115.1
Van Buren	NR	NR	NA
Wapello	NR	NR	NA
Washington	92.5	1.8	49.4

MIDLANDS HSA

Fremont	89.9	3.6	24.9
Harrison	105.6	3.8	27.5
Mills	67.5	2.9	22.7
Montgomery	63.3	2.2	29.2
Page	42.4	3.1	13.2
Pottawattamie	23.8	1.1	21.5
Shelby	142.3	2.4	58.4

TOTALS			
Subarea 1	97.6	2.1	47.7
Subarea 2	73.8	1.8	48.2
Subarea 3	120.6	2.0	48.4
Subarea 4	95.0	2.1	49.7
Subarea 5	55.5	1.2	40.7
Iowa HSA	83.8	1.8	47.2
Illowa HSA	58.5	1.1	54.0
Midlands HSA	53.3	2.0	10.65
State	52.1	1.3	40.6

It is difficult to assess the avilability of rehabilitation services in the long-term inpatient setting. Although a facility must contract for physical therapy services, for example, there is no documentation of the extent to which these services are utilized. It is hoped that rehabilitation services are available in this setting to all for whom such services are appropriate, but the data necessary to make a determination is not presently available.

HABILITATION AND REHABILITION GOAL

REHABILITATION SERVICES GOAL

GOAL: THE GREATER AVAILABILITY OF AND ACCESSIBILITY TO A CONTINUUM OF REHABILITATION SERVICES IN A VARIETY OF SETTINGS.

Availability

Objective 1: By 1982, 18 additional counties with medicare/medicaid certified home health agencies so that rehabilitation services are more available.

Currently 82 counties have such services.

A major benefit of in-home care is the cost savings of early release from intermediate care ($19-22 per day) or acute care ($133 per day) to certified home health care ($10-15 per visit), or the comparable delay of institutionalization to acute or intermediate care due to prudent use of certified home health care services. An individual may remain in his/her home environment for a longer period of time, or may return to that environment sooner than could be expected in the absence of home health services. This objective will help to achieve the goal of a continuum of rehabilitation services through increased availability of, and accessibility to, in-home care.

LRRA: Each county board of health in those counties not yet offering medicare certified home health services will be encouraged to ensure the availability of such services in their counties.

This will be undertaken by the State Health Department, the SHCC, HSAs and other interested agencies in Iowa.

LRRA: By 1980 all third-party payers will be encouraged to reimburse for therapeutic and skilled nursing home health services.

This will be undertaken by State governmental agencies involved in providing health care, the HSAs and third-party payers.

SRRA: The State Health Department will support the continued funding by the State Legislature of H.F. 597.

Availability

Objective 2: By 1982, 25 adult day care centers which provide both rehabilitation and maintenance services. At least five of which are certified for medicare (Part B) and medicaid reimbursement.

Currently, day treatment services are available in nine locations in this State. These programs provide rehabilitation and other services for the impaired individual in conjunction with opportunities for social activities, and would be appropriate for individuals who need rehabilitation services but who do not require 24-hour inpatient care. This type of quality adult day care has great potential for going beyond the senior drop-in center and bridge the gap between institution and community. As will home health care, one benefit of adult day care is the cost savings realized by early release from intermediate care and acute care settings. Although most of the existing programs are receiving Title XX funding, Medicare/Medicaid certification achievement of the goal.

LRRA: Each year between now and 1982 5 adult day care programs will be established. Five of the 25 programs will be certified for medicare and medicaid reimbursement.

Costs per program per year are estimated to be $85,000-$100,000. Personnel to staff these facilities will include public health nurses, and at least part-time persons in some of the rehabilitation therapies. The programs will be housed in existing facilities.

Objective 3: By 1982 increased staff in regional public health nursing offices.

As programs expand in the communities the work load at the regional level will likewise expand. Additional staff will be needed within the next five years.

LRRA: Additional funding for supervisory regional public health staff will be sought by the State Health Department.

Accessibility

Objective 4: By 1982, reimbursement for rehabilitation services made on the basis of specific services rendered without regard to the setting in which the services are rendered

Specific services should be reimbursed regardless of setting. If reimburement systems were operating on this premise, the individual in need of rehabilitation services could receive that service setting. This objective would help to eliminate some of the financial barriers to development and utilization of rehabilitation services in home and ambulatory settings.

In implementing this objective controls on cost and quality must be assured. Health care consumers in Iowa should be made aware of the additional costs.

LRRA: By 1980 the existing reimbursement system's coverage of rehabilitation services by setting will be examined and appropriate changes recommended.

Actors including medicare/medicaid intermediaries, the three HSAs in Iowa, the Social Security Administration, the State Departments of Health and Social Services will be convened to examine and agree to implement necessary changes in the reimbursement structures.

Cost will include staff time involved.

MENTAL HEALTH/SUBSTANCE ABUSE

The problems of alcoholism, drug abuse and mental illness are among the State's most serious health problems. They have complex interlocking causes and results and are dealt with in myriad ways by the health, social services, and criminal justice systems. They account for substantial lost productivity and other costs to the State's economy, and are associated with high levels of human distress and suffering. An estimate of the economic cost to Iowans is unavailable but national costs are estimated to be:

Substance Abuse (Alcohol and Drug Abuse) -	31.5 billion
Other substance abuse -	10.3 "
Mental illness -	36.8 "

The recognition of the similarity between the abuse of alcohol and other drugs was officially recognized by the State of Iowa when the 67th General Assembly merged the Iowa Division on Alcoholism and the Iowa Drug Abuse Authority into a Department of Substance Abuse.

Substances that are abused can be divided into three categories:

. legal or "socially acceptable" drugs, such as alcohol, nicotine and caffeine

. "dangerous" drugs, such as the non-medical use of barbiturates, tranquilizers, and amphetamines

. illegal drugs, such as heroin, cocaine, and marijuana.

Characteristics noted more frequently among substance abusers are:

. low self-esteem

. limited ability to cope with stress

. difficulty in close relationships

. physical and emotional discomfort

. lack of meaningful employment

. lack of recreational alternatives

There are dangers with all drugs. The level of destructiveness, of course, varies with the particular substance and the use pattern.

According to the National Institute on Alcohol Abuse and Alcoholism "Alcoholism is defined as a chronic illness that manifests itself as a disorder of behavior. It is characterized by the repeated usage of alcoholic beverages to any extent that exceeds customary dietary use or compliance with social customs of the community and that interferes with the drinkers health or his economic or social functioning."

Alcoholism is recognized as one of the Nation's 3 most serious health problems. The other two being cancer and heart disease.

Alcohol ranks as the number one substance abused in Iowa. In 1976, of the 315 drug related deaths in the state, alcohol accounted for 227 of these deaths. (Ia HSP).

Other indicators of the extent of abuse of alcohol in Iowa are:

- 48,900 estimated alcoholics in Iowa
- 41,400 male)
- 7,500 female) (Illowa HSA Stat. p. 143)
- 3,596 hospitalizations (1975) due to alcoholism

Heavy drinking was reported by nearly 2% of the sixth graders and climbed to 20% for twelfth graders in all categories. The greatest difference of use patterns in population categories of students occurs with heavy use by 26% of urban students, with 9%, or one-third more than students in semi-urban or rural areas.

Further indication of the status of the people in Iowa regarding abuse of alcohol can be gained by looking at the type of people seeking services in Iowa's 25 approved treatment centers. In 1976

- 36.7 was the average age seeking treatment
- 86.5% were male (48.6% of Iowa population is male)
- 91.8% were white (98.5% of Iowa population is white)
- 3.9% were black (1.2% of Iowa population is black)
- 2.3% were Spanish descent
- 1.8% Native American (.1% of Iowa population is native American)
- 53.8% were in the work force
- 40.0% were Veterans

The greatest percentage referred themselves for treatment (20%) with court referrals a close second (18%). On the average they had been drinking heavily

for 11.4 years and have lived in the same community for an average of 15.2 years. (Annual update to the Iowa State Plan for Alcoholism 1978).

Impact Analysis

The percentage of female alcoholics seeking treatment is dramatically less than the percentage of the female population in Iowa. This indicates special programs need to be directed to educating women to recognize the need for treatment, and to be directed to educating women to recognize the need for treatment, and to furnish treatment services that are acceptable and accessible to women and their families.

While the percentage of black persons seeking treatment for alcoholism is more than the proportion of the black population in Iowa, when the data is restricted to urban black population we find the percentage to be less. This may well reflect on the acceptability of services.

Since 53.8% of the persons seeking treatment were in the work force, treatment programs in places of employment are important means of reaching persons with alcoholism related problems.

The high percentage of veterans seeking treatment in treatment centers has financial implications in that veteran financial benefits are not available at this time for treatment other than in Veteran Administration hospitals.

The distinction between abuse and use is important. While the difference between an alcoholic, a problem drinker, a social drinker, and an abstainer is generally recognizable, there is a tendency to divide other drug users into only two categories: users and non-users. A recent national study of high school and college students characterizes abusers, users, and non-users. As pointed out in the table on the following page showing differences between abusers and users, users and non-users tend to be similar, whereas abusers show a higher percentage of frustration characteristics.

Characteristics of High School and College

Drug Abusers, Users, and Non-Users, 1975

Characteristics	Abuser	User	Non-User
"unable to finish projects"	47%	26%	26%
"things often seem hopeless"	43	17	19
"everytime I try to get ahead something or someone stops me"	47	21	18
"feel angry or frustrated most of the time"	42	24	20
"often find it difficult to get through the day"	36	19	18
"I never found a group where I belonged"	34	8	8

SOURCE: Daniel Yankelovich, "Drug Users Vs. Drug Abusers: How Students Control Their Drug Crisis", Psychology Today, October 1975.

Drug abuse is defined as "The illegal use of a controlled substance or use of a drug in a manner or to a degree that leads to adverse personal or social consequences"*

The amount and kind of drug abuse in Iowa other than alcohol is indicated by the following hospital emergency room cases and drug related deaths in 1976.

- There were 1,482 drug cases in the total number of emergency room cases reported to the Iowa State Department of Health. The top three drugs in emergency room episodes were (ranked in order): tranquilizers, non-narcotic analgesics and barbiturates.
- There were a total of 225 males and 80 females that died a drug related death in Iowa in 1976. Of these 305 deaths 227 were alcohol related.
- By age 11, 42% of a sample of Iowa students grades 6, 8, 10 and 12, had tried alcohol, and 2% had tried marijuana.
- Alcohol and drug involved admissions* to juvenile institutions rose from 38.4% in 1973 to 49.5% in 1976.
- 72% of the young adult male offenders committed to Anamosa (State Men's Reformatory) reported drug involvement.
- Polydrug users comprised 71% of those committed with drug problems.

* The Iowa Comprehensive State Plan for Drug Abuse Prevention 1977-1978.
* Dept. of HEW; Public Health Service; Alcohol, Drug Abuse and Mental Health Administration.

. Marijuana/hashish, combination of marijuana and other drugs or an unspecified combination were the three most involved combinations for drug involved commitments.

Major trends appearing in Iowa's Drug problem seen in 1976-1977 (excluding alcohol)

. Amphetamines and barbiturates appear to be emerging as drugs of abuse
. Polydrug use is increasing every year
. Marijuana continues to be a popular drug
. Iowa's largest concentration of known drug users are within the 21-34 age group especially the 21-25 year olds.
. Drugs are being diffused from urban centers into the rural areas of the state.
. Although we do not have exact data, it is known that substance abuse plays a major part in person abuse cases such as rape, child abuse (including sexual abuse), and wife battering.
. National statistics indicate alcohol is a factor in one-third of the suicides reported, in one-half of the homicides reported, one-half of the motor vehicle accidents deaths, and in one-half of all arrests.
. 56 of the child abuse cases reported to the Department of Social Services in 1976 listed substance abuse as a family problem. (Alcohol 49, other drugs 7).

Impact Analysis

It would seem that alcoholism spans all ages, whereas other illegal drug abuse affects mostly adolescents and young adults. (There are some indications that legal drug abuse is widespread among the elderly but at present we have no data to support this). There seems to be a strong connection between substance abuse and the legal system. (See table on next page)

Criminal Justice Referred Client Characteristics as Compared to all Clients Receiving Drug Treatment Jan-June, 1976 for the Six Major Drug Treatment Programs

	Criminal Justice Adult Clients Served						All Clients Admitted					
	Male (N=355)		Female (N=78)		Total (N=433)		Male (N=669)		Female (N=244)		Total (N=913)[1]	
	#	%	#	%	#	%	#	%	#	%	#	%
Race:												
Caucasian	306	86%	59	76%	365	84%	595	89%	210	86%	805	88%
Black	45	13%	18	23%	63	15%	59	9%	32	13%	91	10%
Native American	0	0	0	0	0	0	2	trace	0	0	2	.5%
Other	3	1%	1	1%	4	1%	13	2%	0	0	13	1%
N Missing	1	trace	0	0	1	trace	0	0	2	1%	2	.5%
Level of Education:												
Less Than HS	151	42%	29	37%	180	41%	57	8%	24	10%	81	9%
Some HS							314	47%	105	43%	419	46%
HS Graduate	187	53%	41	53%	228	53%	217	32%	76	31%	293	32%
College or Grad. School	17	5%	8	10%	25	6%	79	12%	37	15%	116	12%
N Missing	0	0	0	0	0	0	2	1%	2	1%	4	1%
Employment Status												
Unemployed[2]	178	50%	55	70%	233	54%	426	64%	189	77%	615	67%
Part-time[3]							88	13%	23	9%	111	12%
Full time Employed	177	50%	23	30%	200	46%	155	23%	30	13%	185	20%
N Missing	0	0	0	0	0	0	0	0	2	1%	2	1%
Age												
Under 13[4]	0	0	0	0	0	0					2	trace
13-17	92	21%	20	20%	112	21%					191	21%
18-21	159	35%	27	28%	186	34%					272	30%
22-25	133	30%	29	30%	162	30%					256	28%
26-30	54	12%	16	16%	70	13%					133	15%
31-35	8	2%	5	5%	13	2%					36	4%
36 & Over	1	trace	1	1%	2	trace					20	2%
N Missing	0	0	0	0	0	0					3	trace

[1]Included in the 913 total CODAP admissions are 192 juveniles under the age of 18, accounting for a higher percentage of unemployment.

[2]Included in the unemployed category are homemakers for both criminal justice and all clients.

[3]Students are considered employed for criminal justice client section.

[4]Clients under the age of 13 will most likely not be formally involved in the juvenile justice system. Data is for formal juvenile justice system referrals under "CJ" column.

The Substance Abuse Treatment system will be analyzed according to availability, accessibility, quality, continuity and cost.

Availability/Accessibility

- o Approximately 1,152 Iowans are served monthly for alcoholism in treatment centers.
- o Approximately 600 Iowans are served monthly for drug abuse
- o Drug treatment centers are available to 60 of 99 counties
- o There are 25 alcoholism treatment centers in the state with 57 branch offices and contracts with 41 hospitals for detoxification and inpatient services (4 mental health institutes offer inpatient services).
- o There are 19 halfway houses in Iowa serving persons with alcoholic problems
- o 40 Iowa counties have drug education programs, 32 are classified as rural
- o 66 Iowa counties are served by treatment programs, 53 are classified as rural
- o 11 programs serve over 77% of Iowa's population
- o 82% of Iowa's drug treatment programs have court services programs or referral agreements with criminal justice agencies
- o An estimated 24 percent of the adult problem drinking population is female, and this estimate is probably low. Few treatment facilities are sensitive to this population, as reflected in the fact that only 16 percent of the population in treatment are women. Excessive use of alcohol by women during pregnancy can result in a characteristic pattern of congenital abnormalities termed the fetal alcohol syndrome. Although such abnormalities have yet to be fully confirmed, one recent study shows 32 percent of infants born to heavy drinkers demonstrated congenital abnormalities, compared with 9 percent in the abstinent and 14 percent in moderate drinkers. (Source: Proposed National Guidelines).
- 0 There are indications of substance abuse (alcohol, nonprescription and inadequately monitored prescription drugs by the elderly nationwide. However, Iowa data at the present time is inadequate to offer concrete indications that this is a problem in Iowa.

Analysis

While it appears women and the elderly may be underserved in substance aubse treatment centers in Iowa, our data at the present time is inadequate to support extensive programs in these areas. Therefore, preliminary steps to establishing more programs for these populations would be:

1) awareness of need for treatment

2) awareness of availability for treatment

3) baseline data on the magnitude, incidence and prevalence of Substance Abuse in these populations

QUALITY

- As of October, 1977 six contracting alcoholism service centers had not been scheduled for JCAH survey.
- A task force is developing procedures to certify Substance Abuse service center counselors and standards of treatment.

Analysis

Due to the recent merger (January 1978) of the Iowa Division on Alcoholism and the Iowa Drug Abuse Authority into a single Department of Substance Abuse, Iowa is in a unique position to develop unified standards to ensure quality services to those needing services. Such standards will undoubtedly be necessary to ensure third-party payments for services.

The certification of all substance abuse counselors as well as accreditation of substance abuse treatment centers should be an indication of the quality of services offered. In addition, a unified information system would allow for continuous monitoring of services.

CONTINUITY

- 49.5% of admissions to juvenile institutions involved drug and alcohol in 1976 (see appendix p.)
- Over 67% of the admissions to Iowa drug treatment programs were unemployed (1976).
- The largest U.S. study reported that 38% of abusive parents had histories of drinking problems. A similar study of children of alcoholics reported that 10% had experienced physical abuse and 64% had been emotionally neglected.
- 72% of the young male offenders committed to Anamosa (State Men's Reformatory) reported drug involvement.
- The prevalence and incidence of teenage drinking is extremely high. 70% of today's teenagers have tried alcoholic beverages. Of the 16.9 million people in the 14 to 17 age group, 3.3 million are estimated to be problem drinkers. Alcohol problems among youth tend to be acute rather than chronic (Source: Proposed National Guidelines)

Analysis

According to the White Paper on Drug Abuse, prepared by the President's Domestic Council Drug Abuse Task Force, September 1975, future emphasis should be placed on broad based community prevention and education programs.

The high correlation between unemployment and substance abuse suggests that there be an even closer alliance between substance abuse treatment centers, vocational rehabilitation services, and Job Service of Iowa.

- o Drug abuse can lead the user into socially deviant or even criminal behavior; it often results in impaired health and renders the user incapable of discharging family and/or social responsibilities. The consequences of drug abuse vary greatly, depending upon the drugs used, the extent of use, and the route of administration.

- o The population at risk is essentially that group of individuals not yet using drugs or those who are experimenting or just beginning sustained drug use. Some people do not use drugs and need no special reinforcing behavior. At the other extreme are those who are frequent users of drugs and are unlikely to respond to prevention initiatives and should be referred to appropriate treatment services. In between is a large group of individuals who are susceptible to new and increased drug use. This is the primary target population. This target population consists essentially of young people between the ages of 8 and 20. This is the age range when most youths are first confronted with decisions to use particular drugs. Use of and experimentation with some drugs, such as alcohol, tobacco, and inhalants, occur earlier with some children, nevertheless those who are going to start using these drugs on a frequent basis are most likely to start during this time. (Source: Proposed National Guidelines).

Therefore continuity between the services of various systems working with the substance abuse seems imperative if we are to impact on the prevalence of substance abuse.

COST

- O At the present time a subcommittee of the Commission for the Iowa Department of Substance Abuse is working on standards for
  - o treatment
  - o accounting
- o The director of the Iowa Department of Substance Abuse has stated consistent Management Information Systems accounting as one of the directions the new department will take.

Analysis

The drug problem is the sum of the medical, social and economic consequences of drug abuse as they affect the user, the user's family, and the community at large. Not the least of these consequences is the heavy financial burden, estimated at over $10 billion annually. (Source: Proposed National Guidelines)

Obviously, more consistent management information (unit cost of treatment/impact evaluation of results) is necessary before Cost Containment of substance abuse services can be a reality in Iowa.

SUBSTANCE ABUSE GOALS AND OBJECTIVES

The rationale for Substance Abuse Goals came from the following sources unless otherwise stated:

1) Illowa HSP
2) Iowa HSP
3) Midlands HSP
4) Annual update to the Iowa State Plan for Alcoholism, 1978
5) The Iowa Comprehensive State Plan for Drug Abuse 1977-1978
6) January, 1978 meeting of the Commission of the Iowa Department of Substance Abuse

GOAL: A STATEWIDE COMPREHENSIVE SCOPE OF SUBSTANCE ABUSE SERVICES ACCESSIBLE TO ALL PERSONS IN NEED REGARDLESS OF STATUS OR GEOGRAPHIC LOCATION

OBJECTIVE: Accessibility, acceptability by 1982 women in Iowa receiving substance abuse services in numbers more closely approximating the estimated incidence of the need of such services.

RECOMMENDED ACTION:

*LRRA: *Increase the awareness and need for substance abuse treatment programs for women and the elderly.*

LRRA: *By 1980, baseline data on the magnitude, incidence and prevalence of alcohol abuse and alcoholism in Iowa will be available.*

OBJECTIVE: Quality

By 1982, there will be uniform and consistent guidelines under which substance abuse programs are developed and operated.

By 1982, all substance abuse centers accredited by The Joint Commission for Accreditation of Hospitals or other licensing standards acceptable to third-party payors.

*LRRA (Long Range Recommended Action)

By 1982 all substance abuse center counselors will be certified.

OBJECTIVES: Continuity

By 1982 all Iowa schools, kindergarten through twelfth grade will have curriculum on prevention of substance abuse.

By 1982 availability of levels of employment for substance abuse treatment program clients.

By 1982 availability of counseling services to families of substance abusers in crisis situations.

RECOMMENDED ACTION:

*SRRA: *Each substance abuse center will contract with a Community Mental Health Center or other appropriate agency to offer counseling services to families of substance abusers.*

* SRRA (Short Range Recommended Action)

MENTAL HEALTH

Fifteen percent of the American population, amounting to between 20 and 32 million people, need some form of mental health care at any one time. Twenty-five percent of the American population "is under the kind of emotional stress that results in symptoms of depression and anxiety." Fifteen percent of the patients seen in general medical practice are in fact suffering from psychiatric or emotional problems. And to the present direct cost of providing mental health services in this country -- $17 billion per year -- should be added another $20 billion in estimated indirect costs, including lost wages and a shortened life span.

These are some of the observations to be found in the Preliminary Report to the President from the President's Commission on Mental Health, a document completed on schedule September 1 and released to the public later in the month. The report notes that even these startling figures do not take into account the special needs of school-age children, an estimated 15 percent of whom (8.1 million) need help for psychological disorders; the elderly, who "account for 25 percent of all reported suicides, though they represent only 11 percent of the population"; the estimated 500,000 Americans who are dependent on heroin; the condition of minorities who suffer from "institutionalized discrimination"; and the plight of such groups as migrant and seasonal farm workers, whose "emotional and mental problems are compounded by the almost total lack of mental health and other services available to them."*

In 1977, the Executive and Legislative Branches of Iowa Government conducted studies of the mental health system in Iowa. The Governor's Task Force on Mental Health was appointed to study, review, and formulate recommendations for needed change in the mental health delivery system. Human Services Research Institute of Washington, D.C. was engaged by The Joint Human Resources Committee of the Iowa Legislature to analyze the scope, distribution, accessibility, and continuity of services as well as client accountability.

*Behavior Today, Oct. 3, 1977 p.3

The following analyses of Iowa's mental health status and mental health system is based on information from the two Governmental studies mentioned previously (p.) as well as the FY 1978 State of Iowa Plan for Mental Health Services, and the Illowa, Iowa, and Midlands HSPS (health systems plans).

Mental illness is one of Iowa's heaviest health, social, and economic burdens. The cost in terms of human suffering cannot be calculated. However, a picture of the magnitude of the problem can be drawn from the following facts.

- o A conservative extrapolation from national data would indicate 280,000 (10%) of Iowa's citizens suffer from some sort of mental illness. New evidence suggests that this figure might be close to 400,000.
- o In 1976-1977, the estimated cost of caring for the mentally ill in Iowa's four Mental Health Institutes, County Care Facilities, and Community Mental Health Centers totalled over $40 million of which 93% derived from state, county or federal funds;
- o The Iowa Mental Health Institute costs in FY '75-'77 were almost 65% of the total, Community Mental Health Center costs were 18.6% of the total, and County Care Facilities represented 16.3%;
- o Iowa ranked last in the nation in 1974 on per capita expenditures for community mental health and state hospital expenditures.

Status Indicators

- o 37,566 cases were served in Iowa's 32 Community Mental Health Centers.
- o 11,000 were admitted to the 17 psychiatric units of general hospitals.
- o 5,017 were admitted to the 4 State Mental Health Institutes in 1977. Of these admissions
  - o 620 were 17 years or under
  - o 320 were 65 years or older. (The incidence of mental illness rises with age, particularly depression)
  - o The median length of stay is 30 days (more information)

- o 41.7 Iowa persons per 100,000 are institutionalized for mental illness. (The national average is 90 per 100,000).
- o 46 out of 100 Iowa persons living in County Care Facilities are classified as mentally ill or disabled.
- o Iowa public health nurses made 2,266 home visits related to mental illness in 1977.
- o 42% of the Iowa persons served by Rehabilitation Education and Services Branch of the Iowa Department of Public Instruction in 1977 had some form of mental illness.
- o 2.5% of the 2,117 cases of reported child abuse in Iowa in 1976 listed mental illness as the family problem. (183 of the 2,117 cases involved sexual abuse, implying psychological trauma).*
- o An estimated 15% of all patients seen in general medical practice are found to have emotional or psychiatric problems.
- o 18.2% of the residents of intermediate care nursing homes were admitted as mentally ill.
- o The prevalence of severe emotional disorders in rural areas parallels urban areas, but people in rural areas have fewer mental health facilities and trained manpower to assist them.

The present mental health system is analyzed on the following pages by presenting indicators of

Availability of services (where are services located?)

Accessibility of services (who has access to the services?)

Quality of services (how "good" are the services?)

Continuity of services (is there a direct linkage with related services?)

Enabling services (what services do we have to ensure the coordination of services?)

*These data are misleading in that many of the other family problems listed could be classified as mental illness.

These services are considered in the following settings: (1) Home, i.e., public health nurses; (2) mobile, i.e.,travelling clinics; (3) ambulatory, i.e., Community Mental Health Centers; (4) short-stay inpatient,i.e., psychiatric ward of general hospital; (5) long-stay inpaitent, i.e., Mental Health Institues; (6) free standing support setting, i.e., vocational rehabilitation services; (7) community, i.e., citizen input and planning processes,volunteer organizations.

In deriving the recommendations, goals and objectives, we remember that "descriptive information can become evaluative information"; information on who is being served becomes evaluative when it is compared with whom we intend to serve...how much service is given becomes evaluative when compared with expectations of how much service we're going to give. Centrally, evaluation is concerned with the outcomes of programs, with how well people are faring who have received service!*

Availability

- All but two of the 77 counties that lack emergency services or that have limited emergency treatment resources are in rural areas;
- All urban areas had separate psychiatric inpatient services, whereas only three rural catchment areas have this resource. Twenty-two (22) rural counties had no hospital beds for the mentally ill, and half of Iowa's poorest counties in the state;
- Psychatric inpatient care is completely lacking in some counties and is limited to the care of less seriously disturbed clients in others. Psychiatric inpatient units are not usually under the control or purview of the local center;
- Though strong outpatient community services exist in most areas, major gaps exist in other types of services. One of the major

* Carol Weiss, "The Politics of Evaluation" Emerging Development in Mental Health Program Evaluation, Argold Press, N.Y., N.Y. 1977

gaps is residential care to fill the continuum between county care facilities and independent living;

- o There is a shortage of mental health services for mentally ill persons residing in county care facilities. Administrators of the county care facilities in HSRI's survey documented several service needs including resocialization and sheltered employment. Though 81% of the mentally ill residents were on medication, the bulk of physician contacts by such clients occurred during semiannual visits by Mental Health Institute staff.

Analysis

A technical assistance capacity should be developed at the state level to assure that consultation is available for the development and expansion of priority services.

Mental Health Services should be organized in ways that (a) further the development of a full range of comprehensive community-based services and community support services to make possible continued decrease in institutionalization of the mentally ill, and (b) provide an increasing proportion of nursing homes with adequate mental health services. (Source: Subgoal 3C Proposed National Guidelines.)

Accessibility

- o Most rural counties lack the scope and array of mental health services and ancillary services present in the urban centers;
- o There are significant deficits in 24-hour emergency mental health services--only 22 counties have well-developed programs, 28 counties only have a telephone answering service or a recorded message, and 40 counties have no service at all;
- o Center programs generally provide a narrow range of services with few exceptions in urban and one or two rural;

- o Geography, differing criteria for determining liability under sliding fee scales, natural and architectural barriers for the handicapped, and a lack of an adequate array of services and residential resources deny access to services for some clients;
- o There are no mental health personnel trained in communicating with deaf persons in Iowa.

Analysis

Access to necessary health care services is determined by an individual's ability to gain entry into the health system and to receive appropriate services and continuing care. A range of services which offers care and treatment from the preventive through the acute and rehabilitative phase is essential.

Special attention should be given to the medically unserved and underserved populations residing in rural and inner city areas and toward certain age, racial, and ethnic groups who continue to experience serious difficulties in obtaining necessary health services. (Source: Proposed National Guidelines)

Quality

- o Per capita expenditures for community programs averaged $3.42 in urban areas; $3.14 in rural programs; and $1.74 in the poorest areas;
- o The number of clients per thousand population receiving services average 7.19 in urban areas; 5.85 in nonpoverty rural areas, and 4.27 in the poorest rural catchment areas; no money is spent on community mental health services in 14 counties;
- o Distribution of professional and psychiatric staff time per thousand population favor urban areas. The majority of psychiatrists in private practice are in cities of 25,000 population or more.

- o Iowa's Mental Health Institutes are accredited, generally well staffed, and have a reputation for providing good care. Compared to most other states, the staff/patient ratios are excellent and their services to surrounding counties fill major gaps in the community service network;
- o Iowa has attracted qualified professional staff who are basically satisfied with salaries, working conditions, and workloads, and feel free to be professionally creative in their work in both the community and institutional programs. They are reasonably unencumbered by bureaucratic detail and controls;
- o Iowa ranks extremely high in terms of physician/professional hours a week per 100 resident patients;
- o No specific State standards exist regarding the protection of patient rights in private inpatient programs with respect to seclusion, restraints, and use of electroconvulsive therapy;
- o *DSS has limited staff to carry out its monitoring responsibilities in respect to residential care facilities serving mentally ill persons;
- o**DOH has 22 surveyors to inspect and monitor residential and nursing care facilities but no special training in the needs of the mentally ill;
- o There are no physical fitness programs for the residents of the mental health institutes.;
- o Care review committees at the local level also monitor quality of care but also have no special awareness of the needs of the mentally ill;
- o *DSS has limited staff to conduct the required monthly inspections at the Mental Health Institutes;

* Department of Social Services
** Department of Health

- Outside of ad hoc groups, there is no legally mandated citizen review process at the Mental Health Institutes;
- The Iowa Mental Health Authority only provides on-site monitoring at the centers when they are requested to do so by center staff;
- No real financial incentives currently exist for the centers to meet Iowa Accreditation Standards since such standards do not coincide with JCAH standards and therefore do not hold the promise of increased third-party reimbursements.

Analysis

A significant trend in mental health services utilization has been the movement of patients age 65 and over with mental disorders from psychiatric hospitals into nursing homes. The extent of this transition is that the proportion of elderly patients with mental disorders in nursing homes compared to psychiatric hospitals changed from a 53%/47% ratio in 1963 to a 75%/25% ratio in 1969. Slightly over half of the total expenditures($14.5 billion) for direct care of the mentally ill was concentrated in two types of facilities, i.e. nursing homes (29%) and state, county and other public mental hospitals (23%). It would be desirable to stabilize the growth of mental health patients in nursing homes and assure that at least 50% of nursing homes have adequate mental health services by 1982.

The quality of health care services should be monitored and improved on a continuing basis.

The health and disease implications of exercise or its lack are increasingly documented. There is increasing acceptance that a sedentary lifestyle can significantly contribute to the evaluation of some chronic degenerative diseases. Individuals need to be made aware of the positive impact of regular, strenuous exercise on their health and

well-being. Similarly, the increased risks of certain diseases associated with a sedentary lifestyle should be brought to people's attention in ways which encourage and help them to maintain more physically active lives.

Professional, medical and related groups have long been concerned with monitoring and enhancing the quality of health care services. Traditionally, this has been emphasized through standards of education and credentialing. Hospital audits of certain practices and outcomes, such as maternal mortality and tissue specimen reports, have also received considerable attention.

In recent years, increasing attention has been given to utilization review practices and the assurance of continuing competence. Broader recognition has also been given to measuring the outcomes of treatment as well as its structure and processes. Such activities are applicable to ambulatory as well as inpatient services. The state of the art in quality assessment and related activities, however, is primitive.

The effect of maldistribution of health services resulting in disparate equality of care available to various population groups is also receiving added attention. (Source: Proposed National Guidelines)

Continuity

- o The Mental Health Institutes have relatively short lengths of stay for most patients, and provide a variety of services in the quadrants they serve. Some have established good working relationships with community mental health agencies;
- o 75% of all voluntary admissions to Mental Health Institutes bypass the community mental health program;
- o Almost 90% of all mentally ill patients discharged from the Mental Health Institutes bypass the community mental health program;

- o Linkages between the community program and the institutional system vary across the state from good to poor;
- o While some noteworthy exceptions exist, the linkages between the community mental health system and the county care facilities, and other ancillary providers are generally weak;
- o A variety of ancillary service providers including public health nurses provide services to former Mental Health Institute residents in the community;
- o Training of mental health professionals in the State generally takes place at the mental health institutes and at Psychopathic Hospital. Very little of this training entails community-based experience;
- o Most center contacts with other generic agencies in the community that provide services to mentally ill clients are of a one-time nature;
- o Vocational rehabilitation services are currently being utilized by only 9% of center clients and 11% of institute residents. Shortened lengths of stay at the Institues have caused a reduction in the level of VR services provided;

Analysis

The value and viability of a comprehensive community approach to mental health services delivery has been proved. Federally funded programs will be available or under development in over 40 percent of the catchment areas in the country by 1978. Congress has indicated such services are to be extended to every area of the county in which they are needed. It would be desirable for at least 70% of the population to be served by Community Mental Health Centers by 1982.

Community actions to prevent illness and disability can support and supplement individual actions. Home, work place, school, and community should be safer and more conducive to healthful living. Preventive health services are often most effectively organized and provided on a community-wide basis.

The suicide rate for younger age groups of all races is particularly striking. It has almost tripled for persons between the ages 15-24 over the last two decades and nearly doubled in the past ten years. The rate for young males has increased over 100% over the past 20 years. It is especially tragic that 21% of all suicidal deaths occur during these early formative years of adult life.

Prevention activities for children should be aimed at both the children and their parents, particularly health programs that offer information and services before children become mentally disturbed and exhibit extreme behavior; such care may help avoid serious consequences of mental illness. It has been estimated that only 10% of the children who need mental health care receive it.

By helping both parents and children understand the phenomenon of drug using behavior, personal harm may be avoided. Interference with normal childhood development through recognized stages to adulthood can increase the risk of physical and mental disease. Programs should be developed to help children increase their self-esteem, easier developmental tasks, build skills to learn to cope with stressful environments. These programs can help children develop and provide them with the confidence and skills to deal with, master, and adapt to stresses of contemporary living. (Source: Proposed National Guidelines)

Cost

- Nationally, the cost of direct care for mental illness is estimated at $17 billion annually. (15% of all health expenditures)*
- 21.5 million dollars were appropriated for State Mental Health Institutes in Iowa in 1977.
- Current operating budgets for Iowa's 32 community mental health centers exceed 5 million dollars.
- Only very limited sources of funding exist to offset the start-up costs of needed priority services.
- Supplemental Security Income coverage for the mentally ill could be expanded in the State if county care facilities were brought under private, nonprofit auspices.
- There is no reason to believe that Iowa's last place ranking in per capita expenditure for mental illness reveals a lack of mental illness, rather it indicates Iowans get "more for their dollar" as well as indicating a disproportionate lack of services in rural areas.
- No funding or reimbursement incentives currently exist to encourage program improvement in residential and nursing care facilities serving the mentally ill.
- $721,426.72 in Title XIX monies were paid to private psychiatrists in Iowa in FY 1976-1977.
- Iowa's community system has strong local political and financial support. Counties fund 65% of center costs with local tax revenues. There is a strong core of citizens that support and are involved in local programs. Centers have had relative freedom to develop programs and, with few exceptions, have developed small but strong outpatient services that also provide community consultation and education.

* ADAMHA forward plan FY 1979-83.

- o There are weaknesses in administrative and support services, and evaluation and data management at the local program level.
- o There is no legally-mandated citizen participation in the review of the Mental Health Institute program.
- o Mental health planning in the State originates from individual providers: the centers, the county care facilities, local hospitals, and the mental health institutes. The plans and related budget request evidence little provider or county collaboration and are accordingly narrow (provincial) in perspective. The burden of supporting existing and expanded services in most counties is becoming onerous and as a result, counties can no longer afford to view provider plans and budget requests in isolation. Out of economic necessity, if nothing else, counties must increasingly share resources and therefore consider present and proposed mental health services in the context of multicounty plans (Consortia).
- o Very little technical assistance is available to current and potential mental health providers of a programmatic or clinical nature.

Analysis

The previous factors listed are some indication of the cost of Iowa's mental health system. There are no factors listed that suggest means of cost containment. The means for more efficient and economic ways to deliver health services are a priority because of the growing cost of health care. The mental health field is probably the least advanced in this area. An uninformed purchaser of services can buy poor quality services, with poor results and a high total cost thinking money was being saved because the unit cost was low. We simply do not know what improvement is gained at what cost.

A step toward outcome evaluation is made when clients are recorded as entering treatment at a level of functioning and a measurement made of the change in level of functioning on separation from treatment. Combined with cost of unit of treatment, an outcome measurement provides a means of finding effective but economical modes of treatment.

Approaches to enhance the efficient operation of health care facilities have received increased attention due to rising costs. Better trained management personnel have been employed and shared arrangements among facilities have become more common. Interinstitutional systems that maximize the use and effectiveness of management skills and other support services have been established. These approaches present significant opportunities for achieving the benefits of specialized management while maintaining the advantages of local responsibility and responsiveness. Similarly, ambulatory care facilities should emphasize improved management to achieve more efficient operations. (Source: Proposed National Guidelines)

The National Institute of Mental Health has a 4 year goal (1979-83).* "To maintain a broadly-based, stable research training effort and within that effort give emphasis to areas and groups with special needs."*

From the analyses above it would seem Iowa would do well to look to the national goal and provide expertise and assistance to local regions to obtain the information necessary to ascertain if our services are accomplishing what is intended; and if so, if the accomplishment is obtained in the most economical manner possible for the desired result.

GOAL: ACCESSIBILITY TO A FULL RANGE OF COORDINATED SERVICES TO PROMOTE OPTIMUM MENTAL HEALTH FOR ALL PERSONS REGARDLESS OF STATUS OR GEOGRAPHIC LOCATION.

Objectives: Accessibility of services

Objective 1: By 1982 architectural accessibility to all mental health services in conformance with state code for the handicapped.

A new facility which proposes to offer mental health services must be designed for easy access to the disabled and elderly and must be in compliance with the most stringent regulatory requirements applicable whether federal, state or local (Source: Midlands HSP, p. 165)

Objective 2: Accessibility and acceptability to community mental health services for the elderly.

LRRA: By 1982, five of the existing community mental health centers offering a comprehensive range of treatment services to the elderly. (Source: Iowa HSP, VII-10, Objective 7-1C)

Objective 3: Accessibility of mental health services to all deaf and hearing impaired by 1983.

Recommended Action:

Hold at least one in-service workshop for each quadrant concerning psychiatric problems of the deaf or hearing impaired population by 1980.

Objective 4: By 1982 temporal accessibility to mental health services be no more than 30 minutes away for 80 percent of the population.

Eighty percent of the health service area population should be able to reach the services in a maximum of 30 minutes. (Source: Midlands HSP, p. 165-outpatient counseling)

Objectives: Availability of services

Objective 1: By 1982 counseling services available in all community mental health centers for persons affected by person abuse such as child abuse, sexual abuse and wife battering.

Objective 2: By 1982 consultation offered by community mental health centers on a regular basis to area education personnel for working with chronically disruptive and emotionally disturbed children.

Objectives: Continuity

Objective 1: By 1982 identifiable continuity between all community mental health center programs and all primary care physician practices or community health centers, including those established by rural health initiative grants.

LRRA: Increase shared training and continuing education experiences for primary care physicians, physician extenders, and community mental health personnel.

Objective 2: Psychiatric personnel should receive training in community services as well as having inpatient experience.

Objectives: Quality

Objective 1: By 1982, access to quality mental health services for the mentally disabled in County Care Facilities.

Objective 2: By 1982 all Community Mental Health Centers will meet JCAH or similar standards necessary for third-party payments.

Objectives: Continuity of services

Objective 1: By 1982 a system of case managers to ensure continuity of care for the mentally disabled as they move through the different levels of care.

DEVELOPMENTAL DISABILITIES

The information for Developmental Disabilities status and systems comes from two documents unless otherwise stated.

1) The Governor's Planning Council for Development Disabilities. (This plan is prepared by the Iowa Developmental Disabilities Council - staffed by the Office for Planning and Programming) which is appointed by the Governor and acts as a planning body to the Executive Branch. (It is a condition to the certification of federal funds for the developmentally disabled.)
2) Iowa's seven year plan for Delivery of Services to Persons who are Developmentally Disabled, "The Department of Social Services was given the authority (by the Governor and legislation) to develop a plan which assures that the developmentally disabled population of this state will receive services appropriate to their needs".

The three Iowa HSPs do not address the DD population separately. However, grant money for the programs for this population is to relate to State Policy as set forth in the State Health Plan as prepared by the Statewide Health Coordinating Council; therefore, it was a priority for the Preliminary State Health Plan.

Development disabilities are those disabilities attributable to mental retardation, cerebral palsy, epilepsy, autism, (or dyslexia resulting from these) or any other conditions closely related to mental retardation in terms of intelectual and adaptive problems. The handicap must originate before age 18; can be expected to continue indefinitely; and constitutes a "substantial handicap."

The status indicators of the developmentally disabled in Iowa are projected rates from national incidence rates.

- o Total developmentally disabled population--- 153,713
- o Mental retardation---------- 86,094
- o Epilepsy---------- 57,396
- o Autism---------- 179
- o Substantially handicapped---------- 47,782

By 1982, it is projected Iowa will have

- o 11,460 D.D. persons 0-4 yrs of age
- o 38,658 D.D. persons 5-19
- o 99,040 D.D. persons 20 and over

Of these 19,526 (14%) will come from households having annual incomes below poverty level.

- o It is estimated approximately 60,000 Iowas are afflicted with birth defects and genetic diseases.
- o Approximately 3.9% of the new born in Iowa will have birth defects.

Analysis of Status of Developmentally Disabled

Since an estimated 64% of the projected disabled population in 1982 will be 20 years or older it will be important to have residential facilities in the communities with the necessary support services to allow these persons to live in the least restrictive environment.

The percentage of those born with birth defects lends weight to the importance of genetic counseling programs as well as early screening and detection programs.

Liaison with the Department of Substance Abuse for substance abuse education regarding influence of substances on mental retardation is also important in lieu of the enormous influence of substance abuse on the fetus during the prenatal period.

The impact of these disabilities and problems on individuals and their families as well as on society is reduced if the affected persons are able to increase their capacity to handle these difficulties and to carry out more of their daily activities. Such habilitation and rehabilitation efforts can and should be extended in local communities through a variety of approaches. (Source: Proposed National Guidelines).

Health Status Goal

Patterns and conditions of everyday life for the developmentally disabled that are as close as possible to the norms and patterns of the mainstream of society.

Indicators of the Adequacy of the Present Service System for the Developmentally Disabled.

Availability/Accessibility

Prevention

Maternal and Child Health in the State Depatment of Health services are dealt with in detail beginning on page 11.

Services from this division that impact directly on the developmentally disabled are:

- o Family planning agencies (16)
- o Maternity and infant care to 11 counties
- o Genetic counseling available in northeast Iowa

Diagnosis and Evaluation

State Services for Crippled Children attended a total of 7,113 patients in 139 clinic days in 1976.

- o approximately 10% (749) were for early periodic screening and detection.
- o of the patients examined in FY 1976 a total of 390 were diagnosed as developmentally disabled.
  - o cerebral palsy 116
  - o epilepsy 41
  - o mongolism 87
  - o mental retardation 146

The two hospital-schools for the mentally retarded are located at Glenwood (southwest Iowa) serving 52 counties and Woodward (central Iowa) serving 47 counties.

Retardation was attributed to:

infection	7%
intoxification	3
trauma	16
metabolism/growth/nutrition	3
prenatal influence	26

Woodward State Hospital-School maintains a traveling team for evaluation and in-service training.

Glenwood State Hospital-School has a traveling team on request.

The Department of Public Instruction has two programs that relate directly to developmental disabilities. In connection with its goal of "The Child's education must be carried out in the appropriate environment, i.e., with nonhandicapped children and consistent with regular schooling where possible", the 16 area education agencies throughout the State maintain an ongoing identification assessment and diagnostic program including: screening, appropriate training, control measures, confidential record keeping, interaction with pupils, teachers and parents and habilitation.

Continuity

ICF/MR (intermediate care facilities for the mentally retarded), the most intensive level of residential programming that will be available, is planned to be provided at the community level as well as the State Hospital-Schools. The projected numbers of eligible clients currently in need of community based ICF/MR care, if such were available, are as follows:

District 1	(Decorah)	278
District 2	(Mason City)	252
District 3	(Spencer)	137
District 4	(Sioux City)	294
District 5	(Fort Dodge)	104
District 6	(Marshalltown)	155
District 7	(Waterloo)	370
District 8	(Dubuque)	299
District 9	(Davenport)	225
District 10	(cedar Rapids)	653

District 11	(Des Moines)	450
District 12	(Carroll)	88
District 13	(Council Bluffs)	231
District 14	(Creston)	245
District 15	(Ottumwa)	374
District 16	(Burlington)	151

The Rehabilitation Education and Services Branch (vocational rehabilitation) plays an enormous role in continuity of care. If developmentally disabled are to remain in the community levels of employment must be available and accessible. RESB services are available to every county in the State through thirteen major population centers. RESB has offices in the three State universities, four mental health institutes, two hospital-schools, and the state's correctional facilities.

- o RESB worked with 5,311 developmentally disabled persons in 1976.
- o 2,921 were rehabilitated
- o 2,390 were not rehabilitated.
    - o 518 mentally ill
    - o 419 mentally retarded
    - o 126 substance abuse
        - . alcoholism 106
        - . drug addiction 20
    - O 97 epilepsy
- o Title XX Department of Social Services
- o provide homemaker service to developmentally disabled
- o provide adequate day care for handicapped children
- o provides foster homes and group care facilities
- o sheltered employment
- o counseling and protective services
- o information and referral

The University of Iowa has residential and a day program for persons 0-21 years of age "the educables but severely physically and educationally handicapped as a result of cerebral palsy, muscular dystrophy, spina bifida, arthritis, poliomyelitis or other severe physically handicapping conditions.

Statewide private service providers to the Developmentally Disabled "appear to complement the more generalized services by public agencies and serve as purchase-or-service resources for agencies such as the Department of Social Services and Special Education."

- Easter Seal Society served approximately 28,000 handicapped persons in 1975

Quality

- Glenwood and Woodward Hospital-Schools are JCAH accredited and meet federal regulations to receive funding as an intermediate care facility for the mentally retarded and for Title XIX money.
- RESB program efficiency (caseload status quarterly report regularly reviewed)
- Six types of homes are licensed by the Iowa Department of Health to provide board, accommodation and the following types of care.
  - Adult Foster Homes & Boarding Homes (SPECIAL LIVING ARRANGEMENTS): Provide supervision to persons who are unable to sufficiently or properly care for themselves, but who are essentially capable of managing their own affairs. Maximum capacity is 2 persons, (Adult Foster Homes) minimum capacity is 3 persons (Boarding Homes).
  - Custodial Homes (DOMICILIARY CARE) (minimum capacity 3 persons):
    - Basic Nursing: personal care and treatment or simple nursing care to persons who require domiciliary care or occasional skilled nursing care, but who do not require hospital or skilled nursing home care.
    - Intermediate Nursing: nursing care and supporting services as directed by a physician to persons who require continuous nursing care and related medical services, or occasional skilled nursing, but who do not require hospital care.
    - Skilled Nursing: health care services necessary for certification as a skilled nursing home under Title XIX of the United States Social Security Act.

All categories of Health Care Facilities in Iowa (see 3.3.1.3), including the County Care Facilities, are licensed by the Iowa Department of Health. The licensing and renewal procedures and criteria are not known at this time.

Community Education

The Iowa Mental Health Authority lists the developmentally disabled as being included in the definition of those to be served by Community Mental Health Services. However, there are no data concerning such services. The State of Iowa Plan for Mental Health Services lists the following project as funded

The Iowa Association for Retarded Citizens receive funds to develop an educational program entitled, "Developing Attitudes of Selected Agency Personnel to Promote the Mental Health of Individuals who are Mentally Retarded." The program was oriented toward developing more positive attitudes toward the mentally retarded and income maintenance personnel in the Department of Social Services with whom these individuals frequently interact.

Cost

It is difficult to assess any type of cost/effectiveness of services for purposes of Cost Containment without consistent unit of treatment cost data.

Unit cost data for services for developmentally disabled persons is not available at the present time with the exception of RESB cost data.

Cost 1976

- Diagnosis and evaluation average cost per client $214

Training

o College	$603
o Business School	702
o Vocational School	293
o On-the-Job	269
Maintenance	$385

Analysis

In order to ensure accurate data on numbers of developmentally disabled persons needing services and to plan for the orderly development of those services and facilities, a data collection and retrieval system is necessary.

A statewide interagency data collection-retrieval system would eliminate many of the difficulties that now exist when any one agency wishes to collect data to plan properly for the expanded delivery of services to clients or to evaluate and monitor the current services to clients. It would also be used to share information between agencies to better serve clients. If computerized, it could also provide up-to-date information to clients and providing agencies on whatever resources and programs might currently be available and thus resolve a practical difficulty of matching current needs of a client to currently available resources. It would greatly enhance follow-along capabilities.

A major problem in community based health care at present occurs because no single agency is responsible for all related services which affect the health of the citizenry. Such services cannot brought about by the health care system alone. Nor should the health care financing system be the sole source of funds for the entire range of services required. Many other agencies providing human and social services, income maintenance, transportation, employment, housing, vocational rehabilitation and others should be considered a part of the total system of care. The health care system should work with the human services systems to determine the focus of responsibility for coordinating the health and related services to persons with limited capability to seek and secure services from a multiplicity of agencies and institutions. Also, the health system should work closely with other human

service systems, such as the education, welfare, criminal justice, transportation, recreation and others, in planning and implementing health promotion and disease prevention activities.

These interrelationships are especially important to individuals and families with complex and chronic health problems. For example, persons who are emotionally disturbed, mentally ill, alcoholic or drug addicts may need other human service agencies to help them with family and vocational counseling, educational assistance, job training and placement, employment, legal aid, and other social and rehabilitative services. Similarly, persons in need of long-term care often require services such as housekeeping and child care. (Source: Proposed National Guidelines)

At the present time in Iowa, except for the University of Iowa program with regional services, there are few programs to enable autistic type children to remain in their homes. Some states, i.e. Minnesota, do have programs consisting of outreach workers who work with the parents of autistic type children, and who train ancillary helpers to stay with and work with the children in their neighborhood schools.

The health and disease implications of exercise or its lack are increasingly documented. There is increasing acceptance that a sedentary lifestyle can significantly contribute to the evaluation of some chronic degenerative diseases. Individuals need to be made aware of the positive impact of regular, strenuous exercise on their health and well-being. Similarly, the increased risks of certain diseases associated with a sedentary lifestyle should be brought to people's attention in ways which encourage and help them to maintain more physically active lives. (Source: Proposed National Guidelines)

GOAL: A COMPREHENSIVE ARRAY OF SERVICES SUFFICIENT IN QUALITY AND QUANTITY TO MEET ALL CLIENTS' NEEDS, REGARDLESS OF AGE, LEVEL OF DISABILITY OR CULTURAL BACKGROUND ACCESSIBLE IN THE COMMUNITY AND/OR DISTRICT.

Objective: Availability/Accessibility

By 1982, Population in the hospital-schools reduced by one-third.

LRRA: Community based services for children with autistic type behaviors

LRRA: Comprehensive screening, diagnosis and evaluation of all D.D. individuals.

SRRA: By 1978, a residential manual for interested providers and citizens in all aspects of group home development.

Objective: Quality

By 1982, Joint Commission on the Accreditation of Hospitals minimum program standards for all intermediate care facilities for the mentally retarded in Iowa.

LRRA: An ongoing information and evaluation system for the continual improvement and upgrading of the quality of services for the developmentally disabled.

LRRA: Physical fitness programs be part of the individual treatment plans of institutionalized persons when appropriate.

EMERGENCY MEDICAL SERVICES

I HEALTH STATUS

Emergency medical services have their greatest potential for saving lives and preventing permanently disabling conditions when dealing with sudden-onset, acute conditions such as accidents, heart attacks and strokes. However, emergency medical services can do very little to improve the condition of persons suffering from chronic degenerative diseases such as cancer (malignant neoplasms). In Iowa in 1975, the four leading causes of death were diseases of the heart (39.3%), malignant neoplasms (19.1%), cerebrovascular disease (11.5%) and all accidents (5.1%).[1] Emergency medical services can have an impact on three of these four (diseases of the heart, cerebrovascular diseases and accidents). Of the total deaths from diseases of the heart, approximately 50% are caused from heart attacks (myocardial infarction). Since immediate care is of utmost importance in the case of heart attack victims to avoid death and permanent disability, emergency medical services can have a favorable influence on the severity of this condition. Strokes (cerebrovascular diseases) is another area when immediate care is essential and where emergency medical services can have a favorable influence. Approximately 50% of the total deaths from accidents involve automobiles. For the purposes of this section, we will separate automobile accidents from accidents not involving automobiles.

In 1975, motor vehicle accidents took the lives of 714 persons. Approximately 33,000 more were injured, of which about 9% were permanently disabled. All other types of accidents killed 742 persons in the state in 1975. Another 9,009 persons died from heart attacks and strokes in the state in 1975. Statistics indicate that approximately 20% of the deaths from these emergent conditions could have been prevented if proper emergency medical service could have been immediately available to the victim.[2]

[1] Vital Statistics of Iowa - 1975, Iowa State Department of Health, Division of Records and Statistics.

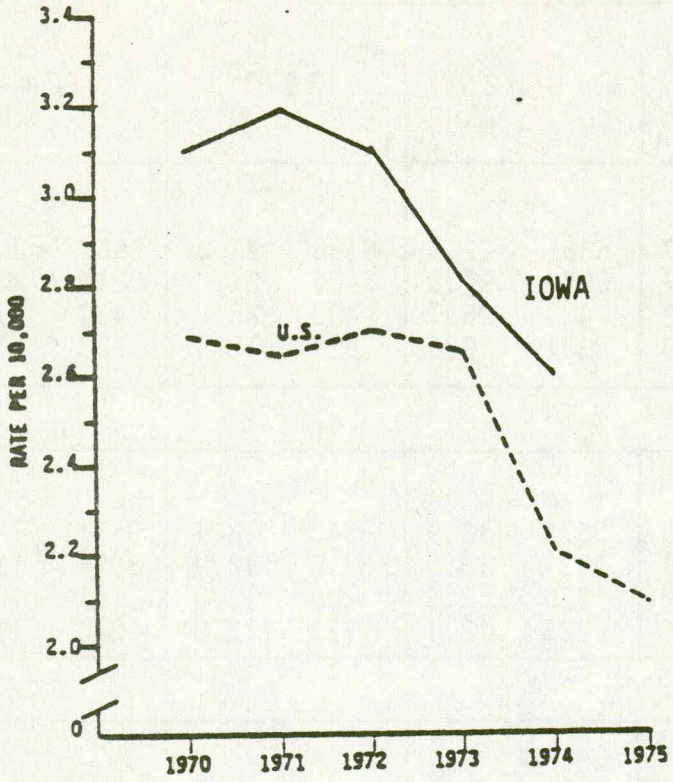
[2] Comprehensive Emergency Medical Services Plan - State of Iowa.

With few exceptions, the death rates from these four conditions have been declining in the State as a whole and in each of the three HSAs since 1970. Of particular significance is the fact that although the rates for myocardial infarctions, cerebrovascular disease and motor vehicle accidents are going down, they are significantly above the national rates (figure EMS-1). Rates of the three health service areas seem to be fairly consistent with the rates for the Illowa HSA being consistently the lowest and those of the Midlands HSA being consistently the highest (figure EMS-2).

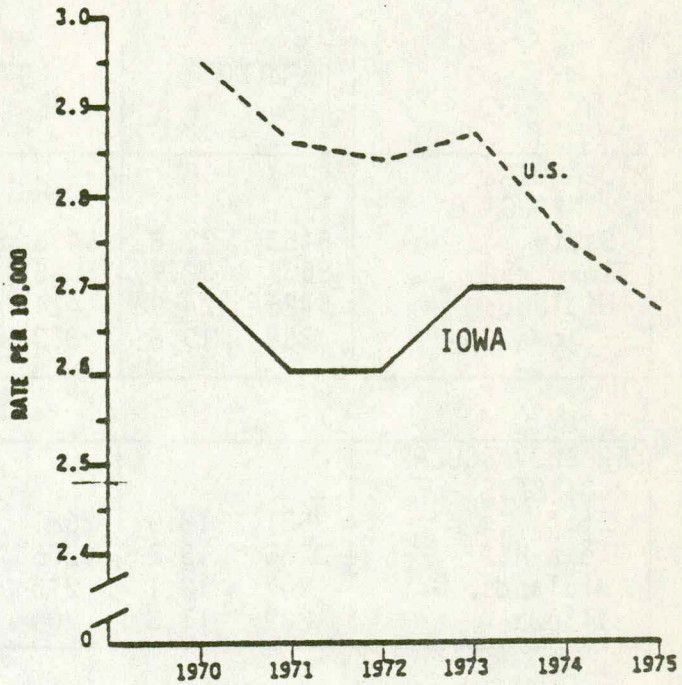
In order to reduce mortality associated with emergency conditions, life-style habits must be changed and the emergency medical services system must be improved. Life-style habits such as drunk or reckless driving, obesity, smoking, substance abuse and other dangerous types of behavior must be changed. The emergency medical services system must be capable of providing immediate response to individuals who have emergency life-threatening injuries or illness.

DEATH RATES IOWA AND U. S.

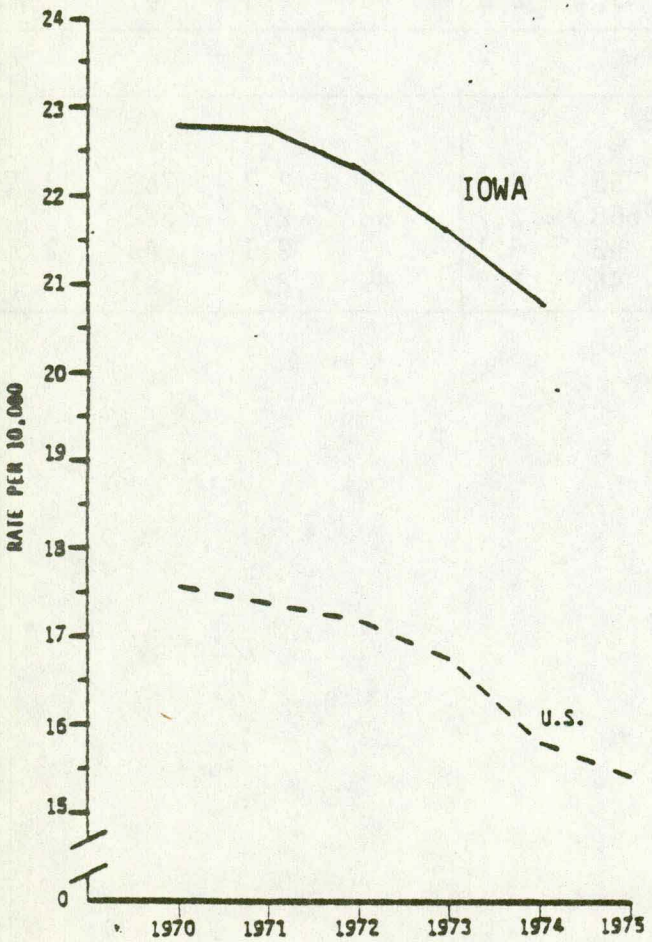
MOTOR VEHICLE ACCIDENTS



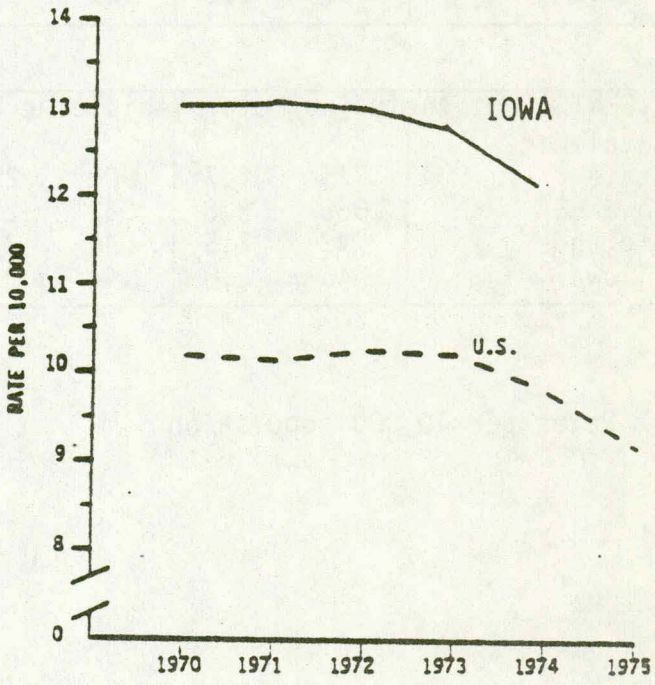
ACCIDENTS, NOT INCLUDING MOTOR VEHICLE



DEATH RATES FROM ACUTE MYOCARDIAL INFARCTIONS, IOWA HSA AND U.S., 1970-75



DEATH RATES FROM CEREBROVASCULAR DISEASE, IOWA HSA AND U.S., 1970-75



SOURCE: DHEW, "Monthly Vital Statistics Report", Annual Summary for the U.S., 1975. Publication No. (HRA) 76-1120, 1976.

Iowa Department of Health, Vital Statistics Age Specification Rates, Three Year Averages, 1970-1974. Division of Records and Statistics, 1977.

DEATHS FROM SELECTED EMERGENT CONDITIONS

	1970		1971		1972		1973		1974	
	#	R	#	R	#	R	#	R	#	R
MYOCARDIAL INFARCTION										
State	6453	22.8	6433	22.7	6361	22.3	6185	21.6	5963	20.8
Iowa HSA	5669	22.9	5646	22.7	5570	22.3	5406	21.6	5210	20.8
Midlands	426	24.9	424	24.8	430	25.1	433	25.2	430	25.0
Illowa	358	19.8	363	19.9	361	19.6	351	18.9	323	17.2
CEREBROVASCULAR DISEASE										
State	3681	13.0	3681	13.0	3674	12.9	3643	12.7	3477	12.1
Iowa HSA	3266	13.2	3256	13.1	3231	13.0	3215	12.9	3086	12.3
Midlands	207	12.1	216	12.6	220	12.8	205	11.9	181	10.5
Illowa	209	11.6	209	11.5	223	12.1	222	12.0	210	11.2
MOTOR VEHICLE ACCIDENTS										
State	878	3.1	900	3.2	873	3.1	813	2.8	731	2.6
Iowa HSA	770	3.1	788	3.2	765	3.1	715	2.9	651	2.6
Midlands	57	3.4	60	3.5	56	3.3	49	2.9	39	2.3
Illowa	50	2.8	52	2.8	51	2.8	48	2.6	41	2.2
ACCIDENTS (Not Including Motor Vehicle Accidents)										
Total Net										
State	775	2.7	900	2.6	765	2.6	765	2.7	769	2.7
Iowa HSA	686	2.8	662	2.7	668	2.7	668	2.7	682	2.7
Midlands	43	2.5	40	2.3	53	3.1	49	2.9	46	2.7
Illowa	46	2.6	44	2.4	46	2.5	49	2.6	41	2.2

Rates per 10,000 population

II. HEALTH SYSTEM

The emergency medical services system must be capable of providing immediate response to individuals who have life threatening illness or injury. In order for this to occur, there must be citizen access to the system, patient stabilization, and inpatient diagnosis and treatment. The typical emergency patient enters the system following a telephone or radio call to law enforcement, fire or ambulance departments. In most cases both the ambulance and police are dispatched and in some cases a rescue unit may be dispatched. Upon arrival at the scene, if the ambulance personnel are Emergency Medical Technicians (EMTs) or Emergency Rescue Technicians (ERTs), the patient is evaluated, eradication and/or patient aid is given and the patient is transported to the hospital. If the ambulance and/or rescue personnel are not EMTs or ERTs, the patient will probably receive minimum or no care at the scene. If communications are available, the hospital will be notified of the patient's condition and approximate time of arrival. Upon arrival at the hospital, the patient will again be evaluated, aid given and the appropriate medical staff notified.

In order for the emergency medical services system to function effectively, the following conditions should exist:

1. Training programs should exist and a majority of the general population should be trained and willing to provide immediate care and/or self help and also trained in the quickest and most efficient manner to summon trained assistance.
2. An emergency communications system should exist which can receive calls for help and quickly and efficiently dispatched appropriate personnel and equipment.
3. An appropriate number of adequately trained emergency medical technicians and emergency rescue technicians should be available

to respond to calls for emergency assistance to all citizens of the state within five (5) minutes in urban areas and ten (10) minutes in rural areas.

4. An appropriate number of adequately equipped emergency transport (ambulance) and emergency rescue vehicles should be available to provide all citizens of the state services within ten (10) minutes in urban areas and twenty (20) minutes in rural areas.
5. A stratified system of hospital emergency departments should exist which would provide that no citizen of the state is more than forty-five (45) minutes from a community emergency service nor more than seventy-five (75) minutes from a regional or comprehensive emergency service.
6. The emergency medical services system should provide without prior inquiry as to ability to pay, necessary emergency medical services to all patients requiring such services.
7. A continuum level of care appropriate to the patients' illness or injury by providing adequate transfer mechanisms between established provider linkages both regionally and statewide.
8. A coordinated approach for utilization of public safety agencies in standard EMS and disaster operating procedures including use of shared personnel and services and Paramedic legislation facilitating the development of advanced life support systems.

At the present time there are just a few courses presented by the Red Cross, the Heart Association and the State Department of Health which train persons to provide immediate care in medical emergencies. However, these are training only a small portion of the population of the State which needs and should have this type of training.

Emergency communication systems exist in this area. The ability to provide medical control through the communication system usually does not exist. The State EMS Communications Plan proposes a more coordinated system, however, this plan is considered by some providers and consumers as not practicle or unacceptable for a variety of reasons.

At the present time there are 6,086 persons serving as ambulance or rescue personnel on either a volunteer or paid basis. Of these 2,726 have been trained and qualify as Emergency Medical Technicians, 173 as Emergency Rescue Technicians, 146 who have received some type of military medical training, and 3,041 (50%) who have received no training at all (figure EMS-3).

Figure EMS-3

	EMS PERSONNEL TRAINING				
	EMT	ERT	Military	No Training	Total
Iowa HSA					
Subarea 1	778	2	17	706	1,503
Subarea 2	474	112	27	455	1,068
Subarea 3	273	1	13	559	846
Subarea 4	443	22	27	554	1,046
Subarea 5	508	36	58	494	1,096
TOTAL	2,476	173	142	2,768 (50%)	5,559
Illowa HSA	33	0	3	97 (73%)	133
Midlands HSA	217	0	1	176 (45%)	394
State	2,726	173	146	3,041 (50%)	6,086

In addition to EMT and ERT training programs which are presented at all area colleges, the Iowa State Department of Health presents courses on crash injury management for police officers, weight enforcement officers, conservation officers, and security officers at State government buildings. Courses on emergency care are also presented to teachers certified to teach the severely handicapped. The department is in the process of developing a course on emergency care to be presented to physicians and nurses for continuing education credits.

At the present time there are approximately 375 ambulance services in the state quipped with 606 ambulance and rescue vehicles. Of these 312 are of Van/Modular type, 161 of Coach type, 55 of Step Van type and 78 which are classified as other (figure EMS-4). It is estimated that none of those classified as other would meet the federal DOT vehicle requirements or the proposed State requirements and therefore would need upgrading. Upgrading of those vehicles which do not meet federal or proposed state requirements may threaten the viability of numerous small volunteer ambulance services. Any effort to establish and enforce these standards should take into consideration these volunteer services.

FIGURE EMS-4

	VEHICLE TYPES					
	Van/Modular	Coach	Step Van	Other	Total	
Iowa HSA						
Subarea 1	67	35	9	21	132	
Subarea 2	47	13	16	8	84	
Subarea 3	44	27	13	10	94	
Subarea 4	58	40	6	19	123	
Subarea 5	64	34	4	16	118	
Total	280	149	48	74 (13.4%)	551	1/4,569
Illowa HSA	8	4	2	0 (0%)	14	1/13,533
Midlands HSA	24	8	5	4 (10%)	41	1/4,194
State	312	161	55	78 (13%)	606	1/4,751

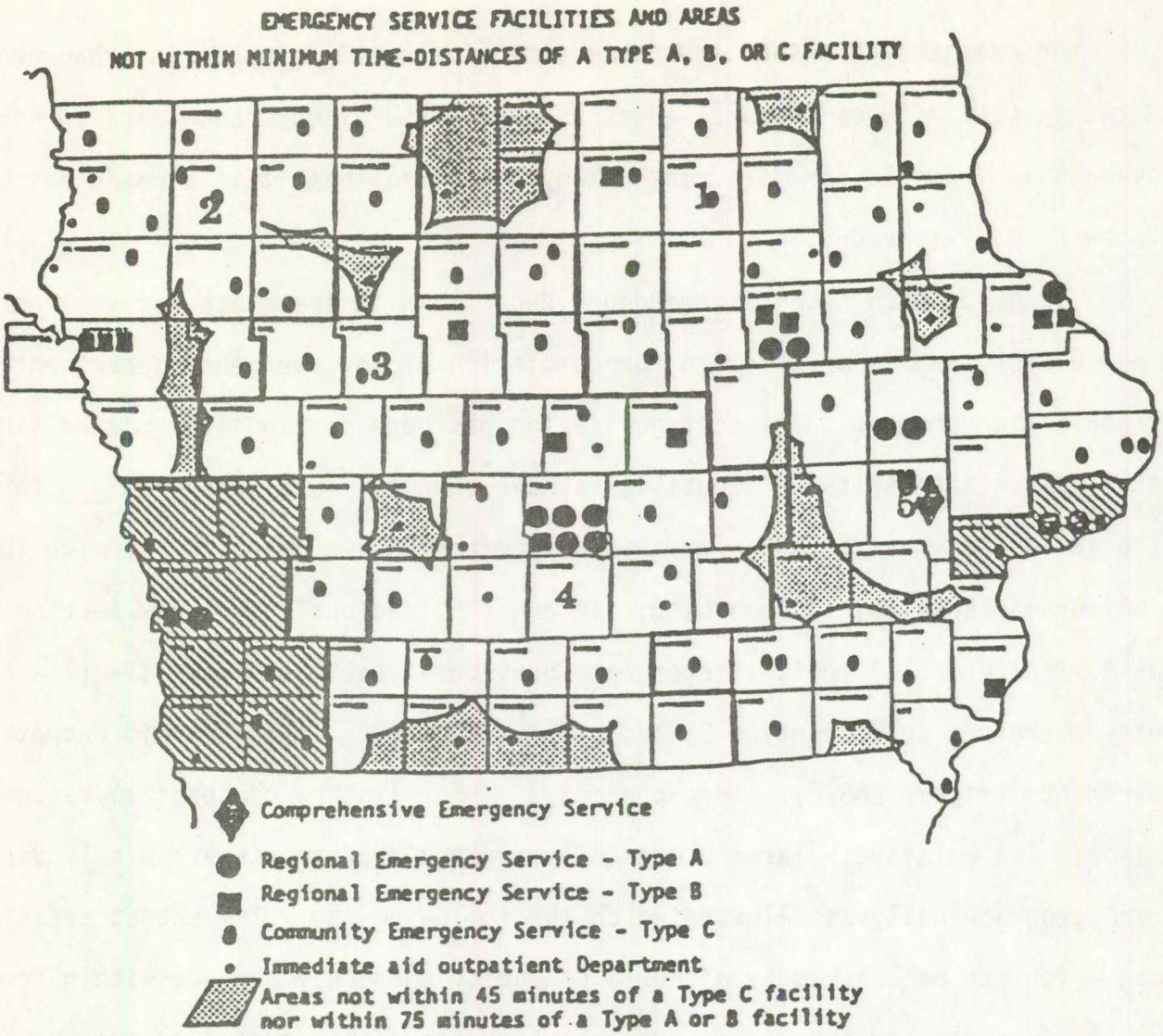
An emergency transport response time of ten (10) minutes in urban areas and twenty (20) minutes in rural areas is considered by most ambulance service providers as feasible for most runs. Many indicated that it is already being met now by many services.

In 1973, each hospital emergency department in the state was visited by an evaluation team in preparation for completion of the emergency department categorization program. This categorization has been continually updated since that time as the hospital's capabilities have changed. See appendix ____ for criteria for categorization. Iowa has one comprehensive emergency service located at University Hospital in Iowa City, fifteen (15) regional emergency services-type A, fourteen (14) regional emergency services-type B, seventy-five (75) community emergency services-type C, and twenty-eight (28) immediate aid outpatient departments (figure EMS-6). See appendix ____ for listing of hospital categorization. The relatively large number of emergency departments are widely dispersed geographically as illustrated on the following map. The shaded areas are those which are not served by either a community emergency service within forty-five (45) minutes or a regional emergency service either type A or type B within 75 minutes.

Figure EMS-6

HOSPITAL CATEGORIZATION

	Comprehensive	Reg A	Reg B	Comm Type C	Immed Aid
Iowa HSA					
Subarea 1	0	2	3	16	6
Subarea 2	0	2	2	17	3
Subarea 3	0	0	1	10	4
Subarea 4	0	5	3	12	7
Subarea 5	1	3	4	13	7
Total	1	12	13	68	27
Illowa HSA		2		2	
Midlands HSA		1	1	5	1
State	1	15	14	85	28



Iowa does not have comprehensive emergency medical services legislation. Along with general legislation covering the operation of emergency vehicles with regard to sirens and lights, the only current legislation provides for:

1. A good Samaritan Act which covers only those rendering "emergency care or assistance without compensation..."
2. Authorization for cities, counties, or county hospitals to operate or contract for ambulance services.
3. Authorization for the use of National Guard helicopters as ambulances.

Currently, the Iowa Legislature is developing a bill relating to the training and certification of and the services performed by advanced emergency medical technicians and paramedics, authorizing the Department of Health to make rules with the advice of an Advanced Emergency Medical Care Board and also imposing penalties. The Department of Health and the Legislature are also investigating the possibility of developing legislation which would allow counties to make a tax assessment to pay for the cost of providing ambulance services. Several different versions of a bill governing operation of ambulances and training of ambulance personnel have been considered in the Iowa Legislature since 1971 without success. Voluntary upgrading of the ambulance system has occurred, however, there are clearly identifiable areas where little progress has been made, thereby illustrating the need for legislation in this area.

GOAL 1: TRAINED ASSISTANCE AVAILABLE IN THE EVENT OF MEDICAL EMERGENCIES FOR ALL IOWANS.

Objective 1: By 1982 50 percent of the population of the state trained in the most efficient and quickest manner to summon trained assistance in the event of a medical emergency.

Objective 2: By 1982 25 percent of the population of the state trained to provide first aid and/or self help in the event of a medical emergency.

SRRA: By 1979 develop and obtain passage of legislation which would require first aid training (to include CPR training) as part of the required driver education course.

GOAL 2: COORDINATION AND IMPLEMENTATION OF THE EMS COMMUNICATIONS PLAN.

SRRA: By 1979 revise the State EMS Communications Plan with involvement from both EMS providers and consumers, law enforcement communications personnel, and communications engineers.

GOAL 3: QUALITY EMERGENCY MEDICAL SERVICES AVAILABLE STATEWIDE.

Objective 1: Establish and enforce minimum statewide standards for emergency vehicles and personnel.

SRRA: Develop and obtain passage of legislation requiring licensure of ambulance services with minimum standards for personnel and equipment.

SRRA: By 1978 develop a "model career ladder" for EMS personnel which would encourage basic and advanced training and provide incentives which would slow the high turnover rate.

SRRA: Obtain passage of legislation which would permit counties to assess taxes to fund emergency medical services by 1978.

Objective 2: A stratified system of hospital emergency departments which would provide that no citizen is more than 45 minutes from a community emergency service nor 75 minutes from a comprehensive or regional emergency service and within easy access of critical care units.

LRRA: Encourage development of the system through the 1122 and Certificate of Need review processes as well as the local and statewide planning process.

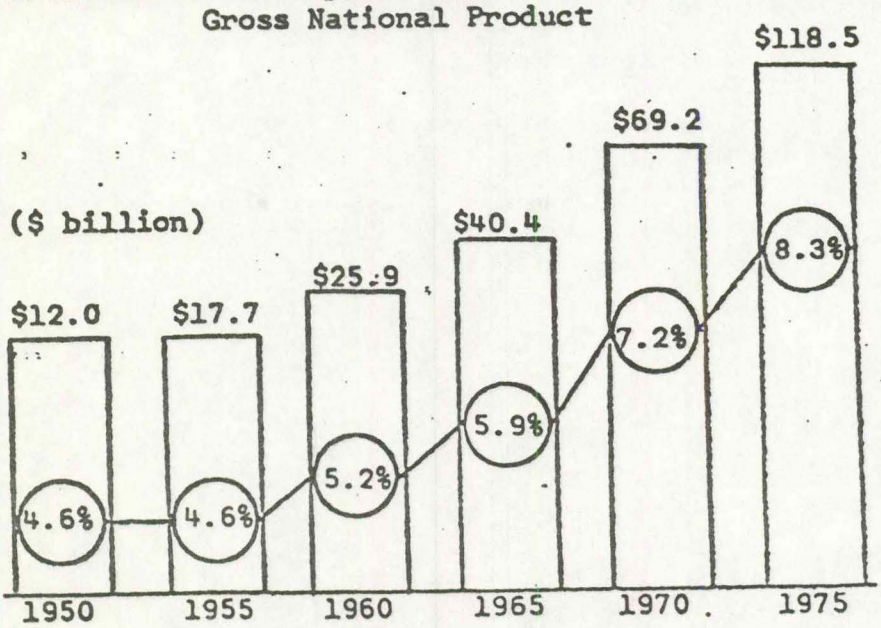
SRRA: By 1978 include as part of the State Medical Facilities Plan a plan for a stratified system of hospital emergency departments to include critical care units.

HEALTH CARE COSTS

Medical care costs have increased dramatically over the last 20 years in both Iowa and the Nation and are continuing to climb. Both the amounts expended for medical care and the prices of medical care goods and services have increased sharply. The rise in medical care prices has outpaced the overall increase in consumer prices.

In 1975, 8.3% of our Gross National Product (GNP - the total market value of the Nation's annual output of goods and services) was spent for health care. The portion of the GNP devoted to health has been rising since 1955, but the rate of increase climbed markedly after 1965.

National Health Expenditures as a Percent of Gross National Product



Source: U.S. Department of Health, Education, and Welfare, Social Security Administration, Office of Research and Statistics.

In 1976, health expenditures as a percent of the GNP continued to rise, reaching 8.6%, or $139.3 billion. In comparison, total medical expenditures were $122.2 billion in 1975, $69.2 billion in 1970, and only $25.9 billion in 1960.

A major source of the increase in total medical care expenditures has been in the hospital sector. Hospital expenditures have quadrupled in the last decade and continue to be the largest share of spending for health purposes, totaling $55.4 billion in 1976. In comparison, expenditures for physicians' services (which have nearly tripled in the last decade) ranked second at $25.4 billion in 1976.

The prices charged for medical care increased by 9.9% in 1975, as compared to a 6.8% rate of increase for all other items in the Consumer Price Index. The rise in hospital service charges was the largest in the 1975 Consumer Price Index, increasing by 13%.

Health Care Price Increases: 1975

	Percent Change 12/74 to 12/75
Medical Care Services	+ 10.3%
Hospital Service Charges	+ 13.0
Physician Fees	+ 11.8
Dental Fees	+ 7.8
Drugs and Prescriptions	+ 7.4
Total Medical Care	+ 9.9

Source: U.S. Department of Labor, Bureau of Labor Statistics.

The per capita expenditure for personal health care was $476 in 1975. For persons under age 65 the outlay was $365, and for persons age 65 and over the outlay was $1,360. The largest part of the personal health care dollar, 67%, is financed by third-party sources (private health insurance and government). In comparison, the percentage of third-party financing for personal health care was 44% in 1960, and only 31% in 1950. Since 1950, out-of-pocket payments for health care have decreased from approximately two-thirds of total expenditures to only one-third. In the area of hospital care, the impact of third parties is even more dominant. Nearly 90% of payments for hospital care were made by third parties in 1974.

Rising prices, population growth, increased use of services, and development of new services have all stimulated the increase of personal health care expenditures between 1950 and 1974, but the impact of each source varies:

- about 46% can be attributed to higher prices;
- about 15% results from population growth; and
- the remaining 38% is due to increased use of services and to a variety of new, often costly, medical services.

Adequate data specifically reflecting total expenditures, consumer prices, and per capita expenditures in Iowa does not exist. Consequently, the Office for Health Planning and Development has made a basic assumption that the Iowa experience is similar to the United States in general.

National public policy in health affairs changed dramatically with the passage of Medicare and Medicaid in 1966. Through these programs, the federal and state governments became major third-party purchasers of health care, infusing billions of new dollars into the health care market. The Council on Wage and Price Stability offers a startling description of the government's impact on the health care system since 1965:

Government expenditures for personal health care jumped 484%

from $7.0 billion to $40.9 billion between 1965 and 1975. Government sources thus accounted for 39.7% of personal health care expenditures in 1975, compared to 20.8% in 1965. The government's impact is particularly noticeable in the hospital sector, where it met 55.0% of expenditures in 1975.

In addition to direct payments for personal health care, the government subsidizes medical research, education, and construction of health facilities as well as providing subsidies through income tax exemptions for health insurance premiums. The total annual level of direct government support to the health industry accounts for nearly half of the total health expenditures.

Government Support to the Health Industry: Fiscal 1975

Source	Amount ($ billion)
Federal Expenditures	$33.8
State and Local Expenditures	16.1
Federal Tax Preferences	8.0
TOTAL	$57.9

Source: The Problems of Rising Health Care Costs, Council on Wage and Price Stability Staff Report, April, 1976

The increase in spending for health care has not been limited to government. Between 1965 and 1975, expenditures under private health insurance plans increased 229%, from $8.3 billion to $27.3 billion. Despite this large increase in expenditures, the portion of total spending for personal health care under private insurance increased only about two percent. In 1975, spending for health care in the United States was as follows: government - 39.7%, private insurance - 26.5%, and out-of-pocket 33.8%.

The Office for Health Planning and Development believes that the overwhelming evidence of uncontrolled spending for health care must cause us to re-evaluate the goal of "health at any cost." We must move to develop an improved

capacity to allocate resources rather than continue to have our scarce resources committed in ever increasing amounts without rational consideration of alternatives. Future expansion of health benefits by government should not be undertaken until the system's current deficiencies that allow unbridled cost increases are corrected. The lesson of Medicare and Medicaid must not be ignored: the introduction of national health insurance without improved controls on the system might well precipitate economic disaster in the health industry.

I. Health Status

The geography of Iowa has had a major impact on the development of the State's system of health care services. The land area is 55,941 square miles and the average population density is 50.5 persons per square mile. In 1970, 80 of the state's 99 counties had population densities less than the state average of 50.5. Of these, 30 had population densities less than half the state average.

Because of the realities of distance in rural Iowa, many small health facilities have been developed to provide access to health services within reasonable travel times and distances. The 1977 Hospital Survey of the Iowa State Department of Health indicates that Iowa has 3 hospitals with less than 25 beds for a total of 42 beds, 40 hospitals with 25 to 50 beds or a total of 1,535 beds. Total number of beds for the state is 16,048. The average occupancy rate for the state is approximately 60% with hospitals with 0-25 beds at 61% occupancy and those of 25-50 beds at 52% occupancy.

The feasibility of changing this situation is limited by the accepted goal of promoting equitable access to health care services. Small hospitals are necessary in many rural areas of the State. The potential does exist to increase utilization of hospital facilities through use of the facilities by other than acute care services.

The population in Iowa, as well as the Nation, is getting older. The portion of the Iowa population age 65 and over increased from 10.4% in 1950 to 12.4% in 1970. The Iowa population age 75 and over increased by 43.2% between 1950 and 1970. The average age at death has been steadily increasing in Iowa for 25 years and is likely to continue increasing.

The elderly population is particularly susceptible to chronic diseases (heart disease,cancer, and stroke) and is, in general, a medical high risk population. It is evident that the number of elderly people in the population is likely to continue increasing and that the consequent demands for medical care will also increase. The 1975 per capita expenditure for personal health care for persons age 65 and over was $1,360, compared to $365 for those under 65. The medical care expendiutres for this age group have increased markedly, and will continue to increase, particularly as we increase our technical capacity to sustain life. At the present time, because of reimbursement mechanism, this segment of the population is being treated in the most expensive manner (institutionalization). Less costly and in many instances more acceptable methods of treatment, prevention and detection are possible and should be encouraged.

The association between the behaviors and habits individuals choose and their health has become firmly established. Though the scientific proof may not be complete, the "relationship can confidently be accepted as a guide to public policy." We know that individual behaviors such as smoking, alcohol abuse, obesity, and lack of exercise are related to the incidence of such chronic diseases as cirrhosis of the liver, cancer, heart disease, and cerebrovascular disease. The evidence suggests that the increased demand for medical care services resulting from chronic illness can, to some degree, be reduced through changes in individual life-style and increased efforts at prevention among younger population groups.

Health is not a commodity that can be bestowed on an individual, nor can it be legislated or required. The primary responsibility for health rests with the individual. Meaningful social policies to promote health (and to reduce demands for health care) must be directed at increasing the individual's sense of responsibility. At the same time, the individual's ability to act on his own behalf must be supported and encouraged by meaningful public health policy and programs. As long as individual responsibility for health is not promoted and supported, there is reasonable doubt that spending additional sums of money for medical care will significantly improve health status.

Research in the field of human biology has dominated our quest for improved health for decades and the results of this emphasis are appearing in the many (expensive) technological changes in medical care. As a Nation, we are spending huge sums of money on biomedical research, one effect of which has been to increase the complexity and cost of medical care services. A study by the National Planning Association estimates that the Fiscal Year 1976 federal support for research breaks down as follows:

	$ In Millions	% Distribution
Human Biology	$1,044	38
Life-Style	105	4
Environment	844	30
Health Services	786	28
TOTAL	$2,779	100

The lack of balance in the support of research in the area of life-style is striking. The strong emphasis on biomedical research may partially explain the current tendency to rely on medical science to lead us to improved health. This is not to disparage the obvious contributions of biomedical research and medical care to our current health status, but only to point out the increasingly apparent imbalance in our research efforts aimed

at improving health. "The shortcomings in our knowledge of human biology and medical practice are matched or exceeded by our ignorance of environmental and behavioral influences on health and factors relating to health services delivery."

II. Health System

1. Methods of Payment

The health care marketplace differs significantly from other sectors of the economy. In the health care sector, the buyer (consumer) has little influence over what he buys or the prices paid. Though the consumer may be consulted, the provider (physician) makes the significant purchasing decisions. To complicate the situation further, the consumer frequently does not directly pay the provider for his goods or services. Instead, a "third party," either private health insurance or government, pays the provider on behalf of the consumer.

In the area of hospital care, there are four participants: the physician, the hospital, the consumer, and the third party, but the physician makes the essential expense generating decisions for all of them. He decides the types and amounts of medical goods and services that will be purchased.

Third parties have become the dominant financing method in the health sector to the extent that they pay for more than two-thirds of all personal health care and more than 90% of all hospital care. The Council on Wage and Price Stability reports that "there has been considerable analysis of the impact of widespread insurance coverage upon demand and prices in the health sector; the consensus is that the prevalence of third-party payments is a significant factor affecting decision making by consumers and providers." The widespread use of "first-dollar" coverage where all expenses for hospital care and surgical fees are

covered up to a predetermined ceiling is a major factor affecting consumers' decisions. Under such coverage, there is literally no relationship between cost and the consumer's decision to seek care, nor the physician's decision to prescribe care.

In this system, consumers are effectively insulated from the costs of the care they consume. Likewise, the provider is insulated from cost considerations since he commands effectively unlimited resources (the third parties) on behalf of the consumer. It is little wonder then that many consumers and providers have become insensitive to the high costs related to their transactions.

The prevailing method of paying for private health insurance coverage further compounds the consumer's insulation from financial responsibility for personal health care. Nearly 80% of health insurance premiums are paid through employment related group plans. Moreover, the employer pays an average of 67% of the total premium under such plans and in 41% of the policies, the employer pays the total premium.

Another major factor in escalating cost under the third-party system is the method of reimbursing providers. Frequently, these payments are made retrospectively, on the basis of actual costs incurred by the provider. The effect of this type of payment system combined with first-dollar coverage is that the provider has limited incentives to be cost conscious or to practice efficient management.

Finally, the patterns of insurance coverage have been shown to strongly encourage the unnecessary utilization of the most expensive forms of service. Both private insurance and government programs have promoted the use of high cost inpatient services with first-dollar coverage, while lower-cost ambulatory services are either not covered or are subject to high deductibles or shared payments. This extensive coverage for complex

and expensive medical services has understandably promoted the availability of complex facilities and services, regardless of the potential for more economical alternatives.

Certainly we can begin to provide better information to both providers and consumers on how they can alter their behavior to contain costs. We can also act to correct the imbalance in the patterns of coverage with a new emphasis on paying for less costly, yet safe, services and less emphasis on high cost inpatient services.

2. Overutilization of Services

Increases in the quantity of medical care services have traditionally been assumed to increase the quality of care provided. Research is beginning to question this "more is better" thesis and indicate that some part of the increasing utilization of services is unnecessary. A comprehensive study on the problem of excess hospital capacity found that "studies of current hospital utilization show a substantial number of admissions and patient days represent unnecessary or cost-ineffective use." The fact that health maintenance organizations experience hospital utilization rates 30% to 50% lower than traditional fee-for-service arrangements supports the contention that hospital utilization can be safely reduced.

The recent national concern over malpractice claims may indicate a new factor affecting utilization, so called defensive medicine, i.e. the practice by physicians of ordering unnecessary tests or procedures to offset the potential for malpractice suits. Though there is little data documenting the extent of this phenomenon, there appears to be general acceptance that it is widespread. An effective quality of care and utilization review program should not only identify such unnecessary services, but should offer physicians protection from frivolous malpractice claims by establishing norms and standards for quality care.

3. Excess Supply of Acute Care Hospital Beds and Services

There is considerable evidence of an excessive supply of hospital beds and services. The Institute of Medicine, in a major study of the problem in 1976, concluded:

> "The evidence clearly indicates that a significant surplus of short-term general hospital beds exist or are developing in many areas of the United States and that these are contributing significantly to rising hospital costs..."

The Institute's conclusion is corroborated in another comprehensive study which observed that the current national ratio of 4.4 beds per thousand population could be safely reduced by at least 10%.

There is further evidence that even where bed increases are limited, the assets and labor expended per bed (service intensity) continue to increase. This phenomenon is the result of availability of new technology and the tendency of hospitals to compete on the basis of size, technological advances, and "prestige." Again, the third-party financing system provides little check on such added costs.

While the technical potential to constrain or reduce the supply of hospital facilities, beds, and services is far from fully developed, it is adequate to begin. However, there appears to be little popular support for the concept. Recent public opinion over the proposed national health planning guidelines is evidence of public resistance to any proposal which appears to suggest elimination of rural hospitals. There seems to be no argument to the fact that there are too many acute care beds in the state and that these empty beds are increasing the cost of hospital care, however there is resistance to decertification or closure of hospitals. The public of the State would be served by a cooperative effort between the hospitals of the State and the health planners to

develop a plan for alternative uses for hospital facilities which would increase availability and accessibility of public health services to the citizens of the state and would also serve to restrain the increases in hospital costs through elimination of excess beds.

GOAL 1: COST CONTAINMENT OF HEALTH CARE COSTS IN IOWA.

Objective 1: By 1982, alternative health care delivery systems available in Iowa.

LRRA: Exploration of alternate delivery care in the areas of cost containment and quality assurance in Iowa by 1980.

By 1983 home health services available to all citizens in need of such services in the state.

SRRA: By 1978, a State Medical Facilities Plan to be used by the 1122 and Certificate of Need Review Programs to determine need for institutional health services.

Objective 2: By July, 1980, a recommendation to the Governor and the legislature on whether or not rate regulation is warranted and would prove effective in restraining unnecessary increases in health care costs.

SRRA: By January, 1980, complete studies and analysis relating to hospital andhealth care facility costs and to the financial status of hospitals and health care facilities to determine if rate regulation would restrain unnecessary increases in health care costs.

THE ENVIRONMENT: ITS MANAGEMENT AND IMPACT ON HEALTH

Environmental quality management are those efforts taken "to protect the community from environmental hazards causing or contributing to disease, illness, injury, or death. Environmental hazards include air, water, and noise pollution, as well as hazards related specifically to unsafe residential and community environs. Prominent environmental health concerns include water, solid waste, air, and noise control, housing vector control, recreational area hazards, and highway safety.

The Environment was chosen as a priority area for the following reasons:

1) Environmental factors contribute to the many health problems. Acute and chronic circulatory, respiratory, digestive (ulcers), and musculoskeletal conditions, cancer, visual and hearing impairments, mental and nervous conditions, radiation, lead, and other chemical poisoning can all be induced or promoted by one's environment. Acute respiratory conditions and skin disorders are also often precipitated by exposure to air or water born irritants.

2) Addressing the environment as a factor contributing to ill health is to address prevention, one of seven national priorities identified in the country's Forward Plan For Health 1979-81. Public Law 93-641, this agencies national enabling legislation additionally prioritizes the environmental factors in the eighth of ten national health planning and resources developing priorities.

8) The promotion of activities for the prevention of disease, including studies of nutritional and environmental factors effecting health and the provision of preventive health care services.

In discussing the environment with state agencies and institutions several areas of foremost concern emerged:

1) water safety-private water supplies
2) waste disposal - radioactive waste disposal in particular
3) noise control
4) housing
5) air quality - leaf burning
6) highway safety
7) radiation safety

Our analysis of the state of the environment as relates to health will include the areas: air, private water supplies, noise and medical radiation safety. Solid waste disposal, highway safety, radioactive waste disposal, housing and noise control are service and status areas we would hope to address next year.

In writing about each of the seven items listed above separately, or not at all, something of their interrelatedness is lost. Water supplies, liquid and solid waste disposal, noise, and air quality all relate to housing. Yet housing is not being discussed this year. As the plan grows more sophisticated, we would hope to portray more accurately the relationship between the environmental issues which are identified concerns.

*Air Quality

Status

Definitions

Suspended particulates (TSP) are any solid or liquid of relatively small particle size (usually .001 to .1 millimeters) that tends to stay suspended and dispersed in the atmosphere for a significant length of time, from seconds to months. Sources include combustion, industrial and agricultural activities, and gravel/dirt roads. Particulates will cause or promote acute and chronic respiratory conditions.

Sulfur Oxides(SO_2) are nonflammable colorless gases detectable by taste or odor. Sources are combustion of fossil-fuels and sulfuric acid manufacturing plants. Sulfur Oxides are known to cause permanent and temporary injury to the respiratory system.

*Source: Department of Environmental Quality, 1976. Air Quality Report.

Carbon Monoxide (C_o) is a colorless, odorless, tasteless, flammable gas. Most CO is present due to internal combustion engines. CO exposure in closed areas, where it is emitted from natural gas heaters, furnaces, water heaters, and clothes dryers, is much more hazardous than exposure to CO in the open air. CO can be fatal, but seldom. It can also cause brain, central nervous system and cardiovascular system damage.

Photochemical Oxidants are easily destroyed. Ozone (O_3) is one. These oxidants are prdouced by hydrocarbons, nitrogen oxide and sunlight combining. Ozone is not a pollutant but as is produced by other pollutants indicates their presence. Photochemical oxidants alter and impair normal respiratory processes.

Nitrogen Oxides include nitric oxide and nitrogen oxide. It comes from fossil fuel burning and combustion. Nitrogen oxides impair and later normal respiration.

Hydrocarbons are the result of incomplete fuel combusion, chemical solvent loss and petroleum production. Respiratory problems are associates with prolonged exposure.

Sulfates are increasingly concentrated in the atmosphere due to fuel combustion and catalytic converters. Respiratory conditions are associated with sulfates.

Present Status

INDICATORS (Standards) see attachment A

Suspended Particulates

An abrupt turn around in suspended particulate trends occurred during 1976. Thirty-five, or over three-fourths, of the forty-six* stations monitoring particulates recorded higher levels when compared with the previous year.

The upward trend in suspended particulate levels is believed to primarily be the result of an usually dry period from July to December.

*DEQ maintains 46 air monitoring stations.

ATTACHMENT A

NATIONAL PRIMARY AND SECONDARY AMBIENT AIR QUALITY STANDARDS* (INDICATORS)

Suspended Particulates

Primary	Secondary	
a) 75 $\mu g/m^3$	a) 60 $\mu g/m^3$	Annual geometric mean.
b) 260 $\mu g/m^3$	b) 150 $\mu g/m^3$	Maximum 24-hour concentration not to be exceeded more than once per year.

Sulfur Dioxide

Primary	Secondary	
a) 80 $\mu g/m^3$ (0.03 ppm)		Annual arithmetic mean.
b) 365 $\mu g/m^3$ (0.14 ppm)		Maximum 24-hour concentration not to be exceeded more than once per year.
	1300 $\mu g/m^3$ (0.5 ppm)	Maximum 3-hour concentration not to be exceeded more than once per year.

Carbon Monoxide

Primary and Secondary	
a) 10 mg/m^3 (9 ppm)	Maximum 8-hour concentration not to be exceeded more than once per year.
b) 40 mg/m^3 (35 ppm)	Maximum 1-hour concentration not to be exceeded more than once per year.

Photochemical Oxidants

Primary and Secondary	
160 $\mu g/m^3$ (0.08 ppm)	Maximum 1-hour concentration not to be exceeded more than once per year.

Hydrocarbons

Primary and Secondary	
160 $\mu g/m^3$ (0.24 ppm)	Maximum 3-hour concentration (6 to 9 a.m.) not to be exceeded more than once per year.

Nitrogen Dioxide

Primary and Secondary	
a) 100 $\mu g/m^3$ (0.05 ppm)	Annual arithmetic mean.

*Published in the Federal Register, Vol. 36, No. 84, Part II - Friday, April 30, 1971; Revised in the Federal Register, Vol. 38, No. 178, Part I - Friday, September 14, 1973.

Sulfur Dioxide

No monitoring sites in Iowa violated either of the hour or annual standard for sulfur dioxide in 1976; however, two sites each had a single value in excess of a third standard of the twenty-four-hour standard. No noticeable trends in statewide sulfur dioxide levels can be determined from the 1976 data.

Carbon Monoxide

Four of the five carbon monoxide monitors operating in the state recorded violations of the eight-hour carbon monoxide standard. There were, however, no violations of the one-hour standard.

Photochemical Oxidants

Ozone violations increased dramatically for all monitoring sites in Iowa during 1976. As seen by the increase in violations, there is definitely a trend toward higher ozone levels and more numerous standard violations throughout Iowa.

Nitrogen Dioxide

There were no violations of the annual standard for nitrogen dioxide in 1975.

Hydrocarbons

Only one city in Iowa monitored hydrocarbons in 1976. The three-hour hydrocarbon guideline was exceeded one hundred and twenty times at the Cedar Rapids monitoring site. Additional hydrocarbon monitoring will begin during 1977 in Des Moines.

During the fall leaf burning is a major source of in residential neighborhoods in metropolitan areas. A special DEQ study during the leaf burning season showed the following results:

1) Health and welfare standards for particulates and carbon monoxide were exceeded several times in various locations throughout Des Moines between October 15 and November 15, 1975. We are allowed to exceed these levels only once per year.

2) A significant general increase in pollutant levels was observed to coincide with the onset of legal leaf burning and remained for the duration of the study.

3) Approximately 10 percent of all the man-made dirt suspended in the atmosphere in Des Moines in the course of the year comes from burning leaves during the short autumn burning period.

4) In a normal residential area 42 percent of the total particles in the air are small enough to be inhaled into the lungs. On a leaf-burning day total suspended particulates in the air can increase 4 to 8 times with the percentage of particles that are respirable increasing from 42 to 58 percent. This means that up to 10 times more of the small breathable particles may be in the air on a leaf-burning day.

DEQ has concluded that regardless of the degree of contol on industry, cities the size of Des Moines cannot meet the health-related standards while allowing leaf burning at present levels. Des Moines is currently the only major metropolitan area in the state not to ban residential waste burning 365 days a year.

In August, 1976, the Environmental Protection Agency (EPA) published a suggested guideline for reporting an air quality index on a daily basis. This guideline was prompted by a study by the National Weather Service showing that of all the air quality indices in use, no two were alike. The EPA therefore developed the Pollutant Standards Index (PSI) in an attempt to provide the public with a uniform guide to air quality.

The PSI incorporates five pollutants -- total suspended particulates, sulfur dioxide, carbon monoxide, photochemical oxidants, and nitrogen dioxide -- and a sixth variable which is the product of total suspended particulate and sulfur dioxide. The monitoring values for these pollutants are converted to a scale from 0 to 500. The National Ambient Air Quality Standard for each pollutant corresponds to PSI=100, and the Significant Harm Level corresponds to PSI=500. Table 5 lists the pollutant levels and corresponding PSI values.

The PSI also ties the levels of each pollutant to its effects on health and health precautions that should consequently be taken.

In future years DEQ's air quality reports will be based on this Pollutant Standards Index.

Services

Indicators

Budgets/service/area of expenditure

Services by setting

Costs

DEQ spent $711,322 in 1976-77 monitoring and gaining compliance with air quality standards. That same year two local programs in the state, in Polk and Linn Counties, spent $120,929 and $16,964 respectively. Additionally in 1977, various industries in Iowa were certified by the Department of Environmental Quality to amortize for tax purposes $13.8 expended for air pollution control devices.

Availability and Accessibility

In 1976 the Iowa Air Monitoring Network consisted of 125 monitors at 71 sites in 37 cities. The network functioning under Department of Environmental Quality auspices has been reviewed and meets the Environmental Protection Agencies sampling location guidelines. Also involved in the network are the State Hygienic Laboratory, the Des Moines Polk County Health Department, the Linn County Health Department, the Quad Cities Area Regional Air Pollution Control Board and the Environmental Protection Agency's National Air Surveillance Network (EPA). These agencies monitor, acquire and report data.

DEQ currently encourages major air polluters to reduce their pollution through working with them and local health officials directly. DEQ can take to court major air polluters when necessary.

Noise

Introduction

The Department of Environmental Quality in April of 1978 received a two-year Federal grant to explore the extent of noise pollution and the need for noise control in the state. The Department will be gathering data on noise pollution within the state in the near future. If data indicate that noise is a significant problem in the state, funding will be sought at the end of the two-year contract to continue noise control efforts.

STATUS

Indicators

decibels (dBs) in indoors settings by day by night
decibels (dBs) in outdoor setting by day by night

Status

The level of noise in urban and rural locations in Iowa is not specifically known. Noise levels adversely affecting the public health and welfare shall be defined as those producing a significant hearing loss (noise-induced permanent threshold shifts greater than 5 dBA) and those levels that adversely affect personal comfort and well-being through mental anguish and annoyance. Additionally, it is important to understand that noise exposure has an additive effect in that prolonged exposure to low or moderate sound levels is as detrimental as short exposures to high sound levels. Furthermore, night exposures tend to have a more significant effect than do day exposures because of perceiver sensitivity and greater impact through lower existing night time noise values. Hence, exposure levels are often weighed more heavily for nighttime events. These day-night levels are expressed as ldn, the 24-hour A-weighted equivalent sound level, with a 10-decibel penalty applied to nighttime levels. "A- weighted" refers to the frequency of sound or the "high pitch-low pitch" component of sound. The "A" scale is used because it most closely represents the range of sound to which the human ear is sensitive. (16,17).

As a standard, noise level should not exceed 70dBs in all areas.

Outdoor activities and annoyances should not exceed 55dBs.

Indoor activity, interference and annoyance should not exceed 45 dBs.

TABLE ___

ESTIMATED CUMULATIVE NUMBER OF PEOPLE IN MILLIONS IN THE UNITED STATES RESIDING IN URBAN AREAS WHICH ARE EXPOSED TO VARIOUS LEVELS OF OUTDOOR DAY/NIGHT AVERAGE SOUND

Outdoor L_{dn}	Urban Traffic	Freeway Traffic	Aircraft Operations	Total
60	59.0	3.1	16.0	78.1
65	24.3	2.5	7.5	34.3
70	6.9	1.9	3.4	12.2
75	1.3	0.9	1.5	3.7
80	0.1	0.3	0.2	0.6

TABLE ___

ESTIMATED PERCENTAGE OF URBAN POPULATION (134 MILLION) RESIDING IN AREAS WITH VARIOUS DAY/NIGHT NOISE LEVELS TOGETHER WITH CUSTOMARY QUALITATIVE DESCRIPTION OF THE AREA

Description	Typical Range L_{dn} in dB	Avg. L_{dn} in dB	Estimated % of Urban Pop.	Avg. Census Tract Pop. Density, No. Per Sq. Mi.
Quiet Suburban Residential	48-52	50	12	630
Normal Suburban Residential	53-57	55	21	2,000
Urban Residential	58-62	60	28	6,300
Noisy Urban Residential	63-67	65	19	20,000
Very Noisy Urban Residential	68-72	70	7	63,000

SOURCE: Adapted from EPA Department of Noise Abatement and Control, 1974, Information on Levels of Noise Requisite to Public Health and Welfare with an Adquate Margin of Safety.

SERVICES

INDICATORS

number of services by location

cost of services by service

Desired System

DEQ has a list of thirteen cities which have documented noise problems and there are probably others. Each of these communities should be surveyed and a summary of community noise problems developed. This should be done by meeting with those community leaders who are dealing with the problem and reviewing the situation they are concerned about. The exact details of the problem and the physical surroundings where it occurs should be listed as well as any solution which was implemented. When all the communities have been surveyed, the problems should be sorted into categories by their similarity.

In addition EPA has developed an attitudinal survey which is intended to determine the actual concern of the average citizen to noise in his or her environment. This survey is also intended to determine the level of control the average citizen wants applied to the noise problem. This survey has been tested by EPA in Allentown, Pennsylvania, a community about the size of Cedar Rapids. EPA has worked out the selection process and the interview process as well as the electronic data processing and statistical evaluation of the results. EPA has offered DEQ materials, training by the developer and the use of these computers in data evaluation.

This project should be initiated in selected cities in Iowa and operated by an agency outside of DEQ which will furnish this agency with the results.

A state noise plan will be developed from the data gathered and summarized earlier. This plan's form and content will depend on (1) whether or not the citizens of Iowa have a concern for noise problems, and (2) the magnitude of the problem.

Based upon the requirements in the Statewide Noise Plan, legislation may be written and submitted to the legislature. Should DEQ be identified as the appropriate agency to permanently operate the noise program, a noise program will be added to this agency's appropriations request. If another agency is selected as the best agency to operate a noise program, then they would be encouraged to seek support for a program operated by them. If it is determined that noise problems are best handled locally without statewide support, then enabling legislation would be developed to support local programs.

The cost of this program's 2-year study is _____.

A summarizing current levels in the nation for areas of given population density , these levels can be assumed to be comparable to places in Iowa of similar population density.

Present System

Availability

On September 14, 1974, the Iowa Department of Environmental Quality was assigned by Governor Robert D. Ray as the lead agency for noise pollution control for the State of Iowa. The Agency was to develop a noise program which would assist communities with noise problems. There are currently at least thirteen Iowa communities which have been dealing with noise problems. Some of which have passed noise ordinances and taken other actions. However, DEQ has never been able to develop this program because it has not had staff to devote to noise even though many Iowa communtiies have requested assistance.

Some work has been done in noise control but not by DEQ. The Senate majority Research staff developed a position paper "Silencing the Roar - Should Iowa Enact Noise Control Legislation" by Dan Dykstra in which some of the issues were addressed.

No state level programs exist but DEQ has received, as mentioned previously, a 2-year grant to study the need for a state level program and/or legislation.

Accessibility

The 13 communities in the state with noise control programs are in the larger metropolitan areas. This is appropriate considering noise levels tend to rise where populations are more dense.

Cost

No estimates are available either of the cost in terms of damages or in terms of program budget dollars in the 13 communities currently operating noise control programs. We hope to have an estimate of costs in next year's plan.

Water

Public Water Supply Status

Although no indepth analysis of the public water supply in Iowa will be undertaken this year, one concern must be mentioned. That is, that although generally public watersupplies (those serving more then 25 people) are safe, there are many public water supplies which have never been or are not regularly monitored, most noticeably municipal systems serving 4,000 or fewer.

A revision in the National Safe Water Drinking Act in 1976, which resulted in the New Interim Primary Drinking Water Regulations, places more stringent requirements on the amount of pollutants allowable in public water supplies. This law additionally requires that all residents receive notice when pollutant levels are exceeding acceptable standards, and is supposed to bring about stricter regulation of community water supplies.

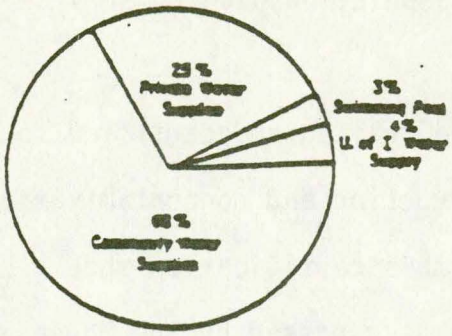
Private Water Supplies Status

According to the 1970 census there were 240,365 private (serving fewer than 25 persons) wells in the state at the time, which served approximately one-third of Iowa's population. Since 1970 the number of private wells probably has increased by at least 10 percent. Private well owners may request an analysis of their water, although the potability of water from a private water well supply should never be estimated on the basis of a single water sample as this can only give an estimate of the problem. In 1975, 10,343 water samples from private wells were submitted to the state hygienie laboratory for examination; this constituted 25 percent of the total tests performed (see diagram on the next page).

There are estimated to be about 4,000 community water supplies in the state. Seven hundred are municipal and 3,000 are in such places as schools, gas stations and mobile home parks. These community water supplies serve about two-thirds of the state population.

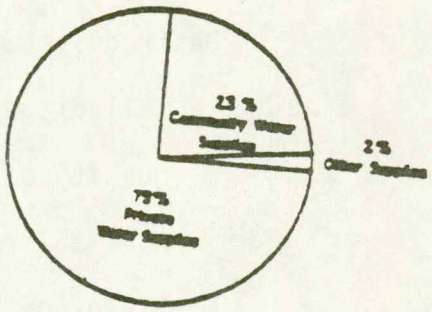
WATER SAMPLES SUBMITTED TO THE STATE HYGIENIC LABORATORY, FY 1975*

Source of Water Samples Analyzed for Coliform Bacteria



41,373 Samples
28,134 - Community
10,343 - Private

Distribution of Water Samples containing unacceptable levels of coliform bacteria



5,793 of 41,373 Total Samples
1,332 - Community
4,345 - Private

This chart indicates that while only five percent of the municipal wells tested had inacceptable levels of coliform bacteria, 42 percent of public wells fell into this category. This does not lessen the problem in community water supplies when one considers that they are likely to serve many more people than the private wells.

And these test results do not necessarily paint the whole picture as many wells can be contaminated with bacteria during periods of high runoff, but if the samples are taken in the summer, bacterial contamination would not be indicated by a lab test at that time.

Another area of concern for the private well user, especially in areas of heavy irrigation, is the possibility of ground water

* Iowa, Annual Report, State Hygienic Laboratory (Fiscal Year, 1975).

contamination from nitrates. Nitrates are considered to be an especially great health hazard to infants. Digestion of high nitrate water by infants can cause or contribute to methemoglobinemia or cyanosis (blue baby syndrome).*

Private Water Supply Services

Indicators

Budgets/Services offered

Services rendered by population needing service by county.

Desired System

Well diggers should be trained and certified to assure the quality of well construction and noncontamination of water. H.F. 357 relating to this certification should be passed by the State Senate. It has been passed by the House already. Private well users should be made aware of the possible dangers of contamination and where to send to have their water tested. Local health departments should warn families in areas where other wells' water have been found to be contaminated.

Present System

Cost

In 1976-77 the Health Engineering Section of the State Health Department spent $240,000 carrying out its sanitation duties, which include responsibilities for private water supplies. Most of these monies were state appropriations. County health departments spend between $750,000 and $1,000,000 each year on environmental matters. Nine local health departments have large staffs (4-5 sanitarians). These large agencies have annual budgets of around $80,000. Forty other county health departments have

** K.S. Koch and P.J. Horick, "Irrigation in Iowa", Iowa Geological Survey Technical Information Series, N. 5, August, 1976.

1-2 sanitarians. These latter local health departments' budgets are probably around $18,000.

Availability and Accessibility

The Health Engineering Section of the State Health Department is responsible for private water and waste water treatment, that is water supplies and waste water facilities serving less than 25 persons, along with several other environmental health code responsibilities.

This section employs nine sanitarians, who perform on a regional basis the section's environmental health responsibilities, provide consultation to sanitarians in local health departments as well as engineering plan review for mobile home parks and public swimming pools.

Radiation Safety

Health Status

Indicators

Source of radiation by amount by frequency.

The citizens of Iowa are exposed to ionizing radiation from a number of sources, both natural and man-made. The two natural sources of such exposures are natural radioactivity, most of which arises from elements formed at the time the Universe was created, and cosmic rays, which are primarily high energy particles coming from outer space. Natural radioactivity presents a somewhat more controllable hazard than cosmic rays, in that some of the dose we receive from the former is due to radioactivity in our drinking water, which can be reduced by chemical treatment of the water.*

* U.S.E.P.A. Technical Note ORP/TAD-76-1, "Determination of Radium Removal Efficiencies in Iowa Water Supply Treatment Processes" by R. J. Schliekelmann, done under contract to the EPA by the Iowa Department of Environmental Quality and the State Hygienic Laboratory.

The so-called background dose in Iowa, due to natural radioactivity and cosmic rays, varies somewhat from person to person, depending on the radium concentration in one's drinking water and the building materials used in the individual's residence among other things, but is in the range of 140-250 millirems per person per year for bones and 70-150 millirem per person per year for gonads.

The man-made sources of ionizing radiation exposure in humans are numerous, but the primary source is X-ray generating equipment used for medical purposes. Estimates of the extent of such exposure vary widely, but are in the range of 50-200 millirem per person per year. Other sources include industrial and research-oriented X-ray equipment, radiation from radioactive fission products used in medicine, industry, and research, radiation from high energy particle accelerators, radiation from naturally occurring radium which has been highly concentrated for various purposes, and radiation from the fission products released routinely in the operation of nuclear reactors. Of the non-medical sources of radiation exposure, probably only the reactor emissions are of major concern (that is to say, only these two affect a majority of the inhabitants in the State) and the per capita dose due to these emissions is <u>at least</u> a million times smaller than that due to the medical uses of X-rays. Obviously, there are excellent reasons for allowing oneself to be exposed to X-rays for diagnostic or

therapeutic purposes. However, there is good reason to believe that a significant fraction of the medically-generated X-ray dose could be eliminated*, through the use of high speed films, shadow shields for the patients and collimators for the equipments and X-rays taken only by qualified personnel, and thus is of prime concern.

Although full information is not available as to the extent of the problem, cases of unnecessary exposure have occurred due to poor equipment or techniques.

Since large amounts (80-90%) of the total or gross exposure to the population is from medical uses (estimated 6,000 radiation sources in Iowa) of radiation and any overexposure should be definitely avoided when possible.

If one includes non-ionizing radiation, such as microwaves and ultraviolet rays, within the purview of "radiation safety" then a number of additional sources of human radiation exposure exist, including microwave ovens, mercury lamps, and solar radiation. The solar radiation is in the ultraviolet, infrared, and (primarily) visible regions of the electromagnetic radiation spectrum and can be considered part of our radiation background, though shielding is readily available with the nearest parasol or pith helmet.

The hazards associated with exposure to unnecessary levels of ionizing radiation are generally not those associated with the acute effects leading to what is commonly known as "radiation sickness", but rather are associated with chronic effects which lead to, among other things, tumor formation - harmful to the person exposed - and genetic damage - potentially harmful to descendants for many generations to come.

* For example, see "Reducing Medical Exposure to Ionizing Radiation", karl Z. Morgan, American Industrial Hygiene Association Journal, May, 1975 or "The Need for Quality Assurance in Diagnostic Radiography" by Ralph E. Bunge, et al., Proceedings of the Health Physics Society Ninth Midyear Topical Synposium, Denver, Feb., 1976.

The risk to the society as a whole, associated with radiation exposure is proportional to the number of individuals exposed times the severity of the harmful effects associated with that exposure times the probability that the exposure will cause the harmful effects, or

This assessment of risk would be modified by any benefit to be gained by the exposure (lower risk), the voluntary nature of the exposure (lower risk), or the extension of the risk to future, and presumably unwilling generations (higher risk).

An assessment of the relative risks associated with various types of avoidable or reducible radiation exposure with the State of Iowa should lead, then, to a list of priorities. For many of the possible exposures discussed, little or no data are available on which to estimate the risk and thus the considered opinion of professionals in the field has been relied upon in making this assessment.

Because the main source of ionizing radiation exposure in the State is from medical equipment radiation safety as it relates to medical exposure will be discussed.

*RADIATION SAFETY

Services

Indicators

Budgets by agency by service

Services by location by exposure source

Desired System

As stated above, little or no quantitative data currently exists to allow for a proper assessment of the exposure of Iowa citizens to sources of radiation. However, some information on national estimates are available. These data indicate that nationally there are wide discrepancies in the exposure of X-rays for diagnostic purposes. It is interesting to note that Iowa is one of a few states in the country that has no legislation on X-ray equipment.

*The source of this narrative is the Radiation Safety Plan for the State of Iowa, 1977, prepared by the Interagency Coordinating Council for Radiation Safety.

H.F. 82, currently in the State legislature hopper, will require the State Health Department in cooperation with other government and private agencies to develop a statewide program for registering all uses of radiation generating medical equipment. H.F. 82 will result in the identification of significant problems, the development of operation and training criteria, and the providing of assistance to facilities in taking corrective measures. Except for one-time start-up-costs ($45-$50,000), fees collected would provide for program costs.

High energy particle accelerators are not only used in physical and chemical research activities, but also in various industrial processes. Such accelerators not only produce high energy particles, but may also indirectly produce ionizing ele-tromagnetic radiation. High energy electrons are used for suture sterilization and for curing of plastics, among other things. How many particle accelerators are in Iowa is unknown and thus the extent of this potential radiation hazard is also unknown. A registration program for particle accelerators could be of some value in assessing the potential health hazard of such devices.

Present System

Costs

The existing program is limited to the State Health Department's contractual agreement with the State Hygienic Laboratory for inspecting 50+ medicare facilities and the Laboratory also provides consultation to private facilities in the form of facility reviews and other surveys.

Annual funds directly allocated:

State Health Department Contract - $18,000

State Hygienic Laboratory - $26,000

Availability and Accessibility

The recently formed Interagency Coordinating Council for Radiation Safety (ICCRS) composed of representative at the State level from the Health Department, Department of Environmental Quality, Public Safety Department, Department of Transportation, Office of Disaster Services and the Bureau of Labor was created to coordinate state level activities regarding radiation safety. The Council publishes annually a State Radiation Safety Plan. The 1977 Radiation Safety Plan is the source for most of the narrative and goals found herein.

The Council attempts to coordinat various agency responsibilities regarding radiation safety in the State and gain support for needed radiation safety legislation in the State.

The public health aspects of ionizing radiation related to X-ray generating equipment and radionuclides used in medicine and industry were dealt with earlier in this narrative. The federal "Radiation Control for Health and Safety Act of 1968" is of note here in that it sets performance standards for equipment or devices (but not for radioactive sources) which, intentionally or otherwise, emit ionizing radiation. These standards are to be met over the life of the equipment, and notification of defects, recall, and replacement procedures are all spelled out in detail. The only weakness in the Act is that older equipment is excluded from meeting the standards. As the years go by and older equipment is phased out, this Act should be highly useful in reducing, if not eliminating, equipment malfunctioning as a source of excessive radiation exposure. This will not, of course, prevent operator misuse or inadequate safety precautions, for example, from causing unnecessary exposure to patients or employees, and thus the X-ray control legislation is needed.

Presently (2-5-78) the House of the Iowa State Legislature has passed a bill, House File 82 which proposes to inspect old equipment and prevent operator misuse of all equipment. ICCRS is in support of this legislation which should be self-supporting except for $20,000 in start-up monies.

COMMUNITY HEALTH PROMOTION AND PROTECTION GOALS

WATER SAFETY

GOAL 1: BACTERIALLY AND CHEMICALLY SAFE SURFACE AND GROUND WATERS AVAILABLE TO 98 PERCENT OF ALL RESIDENTIAL SITES BY 1982.

Quality

Objective 1: By 1982, 95 percent of the estimated 240,365 households which have private wells:

- o Informed of the dangers and signs of chemically and bacterially unsafe water, and
- o Aware of the appropriate sources to analyze and solve complaints and conditions relative to water quality and safety

There is evidence that the main concern of well users has been only the continuing availability of water, and not adequate safeguards against the hazards of polluted water. An extensive educational campaign is needed to improve the individual homeowner's understanding of the various risks from contaminated water. Also, there are many misconceptions about the best sources of accurate guidance in the case of faulty wells, and these misconceptions should be cleared up through increased distribution of information. This objective would encourage increased testing of wells through education, and thus direct users to protect themselves against hazards which may have been in existence for some time.

LRRA: By 1982 a media program of public service announcements for statewide and local use directed at well and septic tank users will be developed. The program will focus on the hazards of, and solutions to bacterial and chemical contamination (specifically coliform bacteria) of private water supplies. The time of two media specialists would be required.

Objective 2: Development of an individual/nonpublic water supply and waste water treatment consultation and control program by June 30, 1978.

The majority of incidences of bacterial and chemical (nitrates, pesticides, petroleum, etc.) contamination is due to poor construction or maintenance. Therefore, once a well, pumping equipment, storage and distribution system is free of deficiencies, contamination is very unlikely.

LRRA: By 1982 the following actions will be accomplished or encouraged by the State Health Department:

A. Establish a statewide criteria for construction, rehabilitation and abandonment of (nonpublic) wells and pumping equipment.

B. Establish a statewide consultation, training and certification program for water well drillers and pump installers.

C. Further develop a training and consultative service which is available to local boards of health to assist them:

1. To develop technical expertise.
2. To establish, in cooperation with their contractors, a quality assurance program for proper construction, rehabilitation and abandonment of wells and pumping systems.
3. To provide direct consultation services to the public to educate and assist the consumer in water system maintenance, evaluation and correction of any drinking water problems.

AIR QUALITY

GOAL 2: AIR POLLUTION LEVELS DUE TO LEAF BURNING WILL BE REDUCED IN METROPOLITAN AREAS BY 1980 IN ORDER TO DECREASE HEALTH RISKS FOR ELDERLY AND CHRONICALLY ILL.

LRRA: The Department of Environmental Quality will keep major metropolitan elected officials informed of the levels of air pollution and health hazards in their communities during leaf burning season.

RADIATION SAFETY

GOAL 3: THE ELIMINATION OF UNNECESSARY ADVERSE HEALTH EFFECTS BY CONTROLLING UNNECESSARY EXPOSURE OF THE POPULATION TO RADIATION SOURCES.

The underlying concept behind this goal is that any radiation exposure results in some adverse health effects. While some public exposure to radiation is inevitable, no avoidable risk due to radiation exposure should occur to individuals, the population or environment without the existence of adequate offsetting benefits.

Objective 1: By 1980 a program in operation which allows for monitoring of the radiation exposure of radioactive medical equipment to operators and clients.

LRRA: By 1980 the Interagency Coordinating Council on Radiation Safety will continue to promote and secure enactment into law of H.F. 82 which was passed by the House of the State Legislature last session.

The program as proposed in H.F. 82 will be self-supporting per fees except for $15,000 annually needed in state appropriations.

NOISE

GOAL 4: NOISE IN URBAN AND RURAL AREAS LESSENED OR MAINTAINED AT DECIBELS ACCEPTABLE TO THE ENVIRONMENTAL PROTECTION AGENCY AND DEPARTMENT OF ENVIRONMENTAL QUALITY, IN ORDER TO DETER ANNOYANCE, MENTAL ANGUISH, AND AFFECT POSITIVELY PERSONAL COMFORT AND WELL-BEING.

Objective 1: By 1980 development of a State Plan of Action regarding noise pollution based upon the study to be undertaken in the next two years by DEQ.

LRRA: An advisory committee developed to see the federal two-year grant along with representatives from all three health service areas in the state, and the State Health Department.